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OFFICE OF POPULATION CENSUSES AND SURVEYS
SOCIAL SURVEY DIVISION

Adult dental health

Volume 2

United Kingdom
1978

A survey conducted by the Social Survey Division of OPCS in collaboration with the Department of Dental Health, University of Birmingham Dental School for the United Kingdom health departments

J E Todd
A M Walker
P Dodd

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We would like to thank everybody who helped to make this survey possible. First of all the other staff at Social Survey Division who contributed to the different stages of the survey, including all the interviewers who carried out not only their usual task of interviewing but also that of dental recording.

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The dental organisers

Dr R J Anderson
Mrs J H Nunn
Mr P S Hull
Professor P M C James
from the Department of Dental Health, University of Birmingham Dental School.

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Notes on the tables

Base numbers have been given in italics. Where a base number is less than 30, statistics have not been given and this is indicated by an asterisk. A dash in a table represents a proportion of less than 0.5% or a mean of less than 0.05 or a zero value.

The varying positions of percentage signs and bases in the tables denote the presentation of different types of information. Where the percentage sign is at the head of a column and the base is at its foot the whole distribution is presented and the figures add to 100%. A percentage sign and base at the side of an individual figure signifies that this proportion of people had the attribute being discussed and that the complementary proportion (not shown in the table) did not.

A proportionately larger sample was selected in Wales and Scotland than in England so that separate analyses could be carried out for the three countries. However, where United Kingdom figures are presented the base figures have been re-weighted. One consequence of this is that the rounding of decimal places in the down-weighted figures leads to rounding errors and thereby slight inconsistencies in the base numbers. For a description of the weighting system used see Section 1.3.

The sizes of the most common sub-groups are presented in Table D in the Tables section at the end of this report. This enables cross references to be made between the bases of the tables in the report and the sizes of the sub-groups, to check which groups have been included in the analyses.

Correction to Adult dental health Volume 1 England and Wales 1968 – 1978
Page 13, Section 4.6, line 4
For '19%' *read*'29%'

1 Introduction

1.1 Background to the survey

The first national survey of adult dental health to be carried out in this country took place in 1968[1]. This study provided basic information about the dental health of adults in England and Wales and the variation in their dental condition with particular reference to differences found between the regions. As well as providing a current picture of the dental health of adults, the 1968 survey enabled a base line to be established from which future change could be measured.

When it was decided to launch another study of adult dental health in 1978, two main purposes were identified. First to ascertain whether there were any changes in adult dental health over ten years and second to provide a picture of adult dental health in 1978, which would allow the introduction of any new bench marks that had become important in the period between the surveys and that might prove relevant for future measurements of change.

Although the 1968 survey had been commissioned to provide statistics for England and Wales, in 1972 a Scottish Study[2] had also been carried out on behalf of the Scottish Home and Health Department, and by 1978 statistics for many subjects were increasingly being required on a United Kingdom basis. It was therefore decided to extend the survey to cover the UK rather than perpetuate a situation in which studies in the different countries were in a different sequence.

The sample for the survey was designed so that a certain amount of analysis could be carried out for Wales, Scotland and England separately. This entailed some over-sampling in Wales and Scotland. Since the survey was to represent the United Kingdom, part of the sample was, of course, selected in Northern Ireland, but from the outset it was agreed that no separate results would be given for Northern Ireland because to do so would require extensive oversampling*.

As with the previous dental surveys, part of the fieldwork involved a dental examination. Responsibility for the design of the methods used in the dental examination and the training of the survey dental examiners was undertaken by the Department of Dental Health of the University of Birmingham Dental School. Throughout the initial planning and launching of the survey their staff worked in close collaboration with the Social Survey Division. Proposals for the dental examination were laid before and agreed by a dental steering committee, which comprised representatives from the commissioning departments, the community dental service and the field of dental epidemiology.

1.2 Outline of the methodology

A sample of approximately 7250 individuals was selected from the Electoral Register and supplemented using a sampling technique carried out at the fieldwork stage to include 16 and 17 year olds and other adults who were not on the Register. The sample covered the whole of the UK with proportionately more people selected from Scotland and Wales than from England and Northern Ireland. The fieldwork involved an interview and a dental examination, the latter being conducted by a team of dentists seconded from the community dental service. The dental team attended a one week training course before the fieldwork where they were introduced to the format of the survey examination and learned to work to the survey dental criteria. Calibration and recalibration exercises were carried out before and after the fieldwork to give a measurement of examiner variability.

All the selected individuals were asked to take part in an interview in their homes and those with some natural teeth were asked at the end of the interview to take part in a dental examination a few days later. The exclusion of the edentulous from the dental examination was the one major departure from the overall scheme adopted in the previous surveys in which all people had been asked to take part in the examination. The survey dental examination was carried out in the informant's home by one of the seconded dentists, accompanied by an interviewer acting as the dental recorder.

The interview contained questions about the informants' dental experiences including their visits to the dentist and the types of treatment they had received. People with natural teeth were asked about their attitudes towards dental care and total tooth loss while those who had dentures were asked about their experience of wearing dentures and their attitudes towards having them. Some topics were covered in exactly the same way as in the previous studies while others were approached slightly differently and a few completely new topics were introduced.

Many features of the dental examination were necessarily very similar to the examination used in the 1968 study. This was particularly so for information recorded about the condition of natural teeth. Rather different examination approaches were used with respect to the condition of the gums, the relative positions of the teeth present and for information about dentures.

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* In fact a dental survey based on the same criteria and techniques as have been used in this study was carried out in Northern Ireland at the end of 1979.[3]

A small pilot study was conducted in January 1978 and the main fieldwork took place in April, May and June 1978.

1.3 The sample

A detailed description of the sample and the method used to select it will be found in Appendix A. However, a general description of the main features of the sample will clarify why some of the analysis procedures used throughout the report are necessary.

The survey required a sample of adults aged 16 and over living in private households. People living in institutions were excluded because of the difficulties involved in sampling and interviewing them. This group had been excluded from the other dental enquiries for the same reasons. The sample was to be spread throughout the whole of the United Kingdom.

The most important factor determining the size of the sample was that it needed to be large enough in England and Wales to detect any major changes that had occurred over the previous ten years and that the sample selected in Scotland needed to be large enough to conduct analyses similar to those carried out in the 1972 Scottish survey and to make some sound comparisons between the two surveys over six years.

Another consideration affecting the size of the sample was that in the 1968 survey, Wales had been grouped with the South West of England for regional analysis, since the sample size was not large enough for both regions to stand alone. With hindsight this grouping was not seen to be particularly appropriate since, from a dental viewpoint, the two areas are very different. Although for comparisons over the last ten years this original grouping has to be retained, it was agreed that, when looking at dental conditions in 1978, Welsh figures would be presented separately, which meant obtaining a sample large enough to permit such analyses.

There were, of course, constraints on how large the sample could be; one of the determinants being the number of dental examiners used and another, inevitably, the cost. Two changes from the basic scheme used in the 1968 survey were introduced to maximise the use of our resources. The first change was the exclusion of the edentulous from the survey dental examination, which allowed an increased sample size to be selected without the need for increasing the number of dental examiners. The second was the selection of proportionately more people in Wales and Scotland than in England, which facilitiated separate analyses without increasing the size of the sample required in England. In the 1968 survey we had used a two stage sampling process, selecting parliamentary constituencies at the first stage and individuals at the second. Constituencies were chosen as the first stage units because they were 'not so small as to be unduly influenced by the activities of one dental practice within them but were small enough to avoid using too much of the examining dentist's time in travelling between selected people'[4]. This was just as true in 1978 and so the same basic design was adopted.

Consideration of all the above mentioned factors led to the selection of 39 constituencies and about 4700 individuals from England, 20 constituencies and about 1750 individuals from Scotland and 12 constituencies and about 650 individuals from Wales. In Northern Ireland 160 individuals were selected but using a slightly different scheme (see Appendix A). In Scotland, proportionately 3.3 times as many people were selected as in England while in Wales the equivalent figure was 2.4. Consequently if figures for the four countries are simply added together Scotland and Wales would be over represented. Thus all the figures for Scotland and Wales have to be downweighted by factors of 1/3.3 and 1/2.4 respectively when presenting United Kingdom results.

The downweighting procedure necessary for arriving at the correct UK figures has consequences for the base figures of tables. One is that the rounding of decimal places in the downweighted base figures leads to rounding errors and thereby slight inconsistencies in base numbers. The other effect occurs where figures are presented separately for Scotland and Wales and also for the UK. In these cases we have chosen to present the unweighted (actual sample size) figures for Scotland and Wales while the UK figure will, of course, include the downweighted values for Scottish and Welsh figures.

1.4 The survey dental examiners

The survey information was collected using two methods: an interview and a dental examination. The Social Survey Division maintains a field force of interviewers but, of course, has no readily available team of dental examiners. The previous dental surveys had used dental examiners from a variety of sources, and for the 1978 study the community dental service was asked to provide the necessary examiners.

The sample was designed so that in England each constituency would provide the workload for one dental examiner. In Wales and Scotland however, the constituencies needed to be grouped in order to do this. Most of the constituencies selected in Wales were paired on a geographical basis, so that dental examiners could cover a pair of constituencies. Since the Scottish sample contained a higher number of people per constituency than the Welsh one, it was thought that the workload resulting from two constituencies might be too great for one dental examiner to carry out in six weeks. Therefore, individual constituencies which covered a large area, and would involve more travelling, were allocated one per dental examiner and smaller ones were paired and allocated to dental examiners who were asked to be available for nine weeks rather than six. In the event however, most examinations had been completed by the end of the six week field period.

By using the community dental service we ensured that all the dentists were working fairly near to home which was a method of minimising the overall costs. In order to achieve this, we had to ascertain in which Area Health Authority or Health Board each selected constituency was situated. We then contacted the relevant authorities and asked if they would release a dentist from his normal duties to carry out the survey work in their area. As constituency and health area boundaries are not aligned, there were a few cases where the selected constituency fell in two different health areas.

In these cases we asked the area containing the larger part of the sample to second a dentist and informed the other area that the survey would be taking place. There were also some instances where more than one consistuency was selected from one health authority so that more than one dentist was needed from that area. In most cases these areas seconded the number of dentists needed. All but two areas were able to release a dentist to work on the survey and for the two who were not, neighbouring health authorities seconded dentists to carry out the survey work. This resulted in a team of 64 dental examiners and a list of the survey dental team will be found in Appendix B.

Ideally all the survey dental examiners working on the survey should have attended the same training course so that variation in the data collected could not possibly be attributed to any variation in the method of training. However, with a large sample of people to be examined in a relatively short time, the number of dental examiners needed to complete the fieldwork meant that it was impossible to train them all on one course.

The dental examiners were allocated to one of two consecutive training and calibration courses according to the area in which they would be working, to ensure a regional mix at each training course. All the other work to do with the content and management of the two training courses was carried out by the Department of Dental Health of the University of Birmingham Dental School and a detailed description of this will be found in Appendix B.

1.5 The survey interviewers

The interviewers working on the survey were drawn from Social Survey Division's team of interviewers who are trained by the division and who work on the range of surveys which comprise the continuous programme of survey research carried out by the division. The interviewers were specially briefed for the dental questionnaire and trained to be dental recorders about a week before the dental examiners were ready to start the fieldwork. This gave the interviewers an opportunity to carry out their first interviews and so be able to arrange some dental examinations for the survey dental examiner to conduct as soon as he had completed the training course.

Each dental examiner worked with between two and four interviewers. Although we arranged for the dentist to meet one of his interviewers during the dental training course, we could not arrange for him to meet them all and so we asked the dentist and all his interviewers to meet on the first working day, have a practice session together and make their arrangements for the fieldwork. As the dentist was to be working with a number of interviewers, we organised a basic rota system nominating particular days that were to be worked with each interviewer. This basic rota was amended by each team as required, but was a very necessary starting point since interviewers needed to know while they were interviewing at what time they could make appointments with the public to return with the dentist for the dental examination.

Part of the interviewer's role at the examination visit consisted of 'shielding' the examiner from too close an involvement with the informants since most of the dental examiners had never conducted home examinations before. The examination was conducted in a coded form so no information was passed to the informant and the interviewers were instructed to try to prevent or divert dental queries being directed at the dental examiner. On the whole this worked well particularly as the informant already knew the interviewer from the preceding interview.

The method of carrying out the dental examination and the equipment used is described in Appendix B.

1.6 The response

In all sample surveys the number of people who agree to participate is very important, but in this one it was particularly so since there were two stages where non-response could be introduced. In the initial introduction to the survey the interviewers stressed the importance of all people taking part, since it is always a problem in dental surveys that people who have lost all their natural teeth may not see the relevance of the survey to themselves, and so may decline to take part. When asking the informants if they would take part in the dental examination, every effort was made to ensure the smallest possible loss at this stage and the interviewers were given

Table 1.1 The response achieved

a) Sample of addresses		
Number of addresses selected	7266	
Withdrawn (obvious institutions)	113	
	7153	
No person for interview at address	878	
Effective sample of addresses	6275	
b) Co-operation achieved at the interview		
		%
Interview obtained	5967	89
Refusal	529	8
Non-contact	183	3
Total people selected from 6275 addresses	6679	100
c) Co-operation achieved at the examination		
		%
Dental examination obtained	3495	86
Refusal at end of interview	398	10
Refusal at second call	96	2
Non-contact at second call	93	2
People interviewed who had some natural teeth	4082	100

a list of points to mention in order to encourage people to participate. Overall we achieved interviews with 89% of the individuals selected and dental examinations with 86% of those eligible (Table 1.1).

The sampling method used for this survey provided a representative sample of individuals but was initially based on addresses (see Appendix A for a detailed description of the sampling technique). Individuals were selected from 6275 of the original sample of 7266 addresses selected for the survey. Those addresses which did not yield anybody for interview comprised mainly institutions, empty or demolished properties and those where the selected individual had moved away while the rest of the household remained.

With the addition of a sample of the 16 and 17 year olds and other people who were not registered but were found to be living at the selected addresses, a total of 6679 people were eligible for interview. Of these, 89% were interviewed, 8% declined to take part and 3% could not be contacted by the interviewer either because they were always out or because they were away for the period of the fieldwork.

Only people who had some natural teeth were asked to take part in the dental examination. Among the people who were interviewed, 4082 had some natural teeth. A dental examination was obtained from 86% of these people while 10% said at the end of the interview that they did not wish to take part and a further 2% declined to participate when the interviewer re-called with the dental examiner. There were only 2% of people who initially agreed to take part but were not contacted when the interviewer returned. The size of this group was kept small by ensuring that the interval between the interview and the examination appointment was as short as possible and also by giving the informant an appointment card so he knew when to expect the interviewer and examiner.

1.7 Contents of the report

The results of the 1978 Adult Dental Health Survey are presented in two volumes. The first volume includes the analysis of the dental condition of adults in England and Wales in 1978 compared with the situation in 1968. The second volume portrays the current dental health situation for adults in 1978 for the whole of the United Kingdom and includes results shown separately for Scotland and Wales. The second volume also includes material about topics which were introduced for the first time in 1978 or were collected differently in 1978.

References

[1] Gray, Todd, Slack and Bulman *Adult dental health in England and Wales in 1968* HMSO 1970

[2] Todd and Whitworth *Adult dental health in Scotland 1972* HMSO 1974

[3] Rhodes and Haire *Adult Dental Health Survey Northern Ireland 1979* HMSO 1981

[4] Gray *et al* op cit. page 4

2 The interview and dental examination

2.1 Introduction

In determining the content and design of both the questionnaire and the dental examination, we had to strike a balance between, on the one hand, the need to produce results comparable to those from the 1968 survey and, on the other, the need for changes suggested by the hindsight of ten years and the experience of two other national dental surveys. A major change in the design of the dental examination was, of course, necessitated by the decision to examine only dentate adults in 1978, whereas all adults, including those with no natural teeth, had been eligible for examination in 1968. No such major changes were implemented for the interview stage of the survey.

2.2 The questionnaires

There are two main sub-divisions in the analysis of survey dental data: people who have some natural teeth and those who have lost them all. However, from the point of view of collecting the data, informants are best divided into three broad categories: those who have only natural teeth, those who have lost all their teeth, and those who have a combination of their own teeth and dentures.

To interview all these people using the same questionnaire would be very cumbersome since there are obviously different topics which are appropriate to each group. So, as with the previous surveys, we used three different interview questionnaires with a brief introductory questionnaire which established which of the three main documents the interviewer should use.

The questionnaire for people with only natural teeth was designed to establish the informants' dental attitudes and their dental experiences. More specifically we wished to ascertain their attitudes towards dental treatment, the appearance of their teeth, wearing dentures and becoming edentulous. Questions relating to their dental experiences covered the types of treatment received both as a child and as an adult, their most recent visit to the dentist and, visiting the dentist in general, and, finally, a section on the NHS system of dental charges to assess their knowledge, experience and opinions of the current system.

The questions covering dental experiences were also included in the questionnaire for people who had lost all their natural teeth. However, the major part of their interview concerned total tooth loss and denture wearing. These informants were asked in some detail about the loss of the last of their natural teeth both from the factual point of view and what they had felt about it. We asked briefly about their denture wearing experience prior to becoming edentulous and in more detail about their present denture wearing. This latter section included questions on when the dentures were worn, whether they caused any difficulties and what the informant thought about their appearance.

The questionnaire for people who wore dentures in conjunction with natural teeth consisted of all the appropriate questions from the other two questionnaires plus a few which were relevant only to those with some natural teeth who also had dentures.

In all of the questionnaires many of the questions were identical to those used in 1968, in particular the one which established dental attendance pattern since this is an important variable in the analysis. Some were designed to obtain similar information but using a more compact form and some topics were tackled in a completely different way.

The interviews for people with only natural teeth and for people who were edentulous took about half an hour while the interview for people who had partial dentures took about forty-five minutes.

2.3 The dental examination

The detailed dental criteria used in the survey dental examination are presented in Appendix B, but it is useful at this point to give a general description followed by a discussion of the differences between this examination and the one used in 1968.

The 1978 survey dental examination consisted of four main parts: the condition of the teeth, the condition of the soft tissues, the orthodontic condition and, for people who had them, some details about dentures. In assessing the condition of the teeth, each tooth space was identified and the presence or absence of the tooth recorded. Teeth which were present but unrestorably decayed were recorded as such and crowned teeth were also identified at this stage. The potential tooth space left by each missing tooth was examined and classified according to the current situation as being filled by a denture, filled by a bridge, remaining as a space of having disappeared through other teeth closing together. Information was then recorded about the condition of each surface of every standing tooth (including those which were unrestorably decayed or crowned). A surface could be coded as sound, decayed, filled (with an amalgam, gold, or synthetic filling) or decayed and filled. At the computing stage these codes were summarised to give the overall condition of each tooth.

The information concerning the soft tissues around standing teeth was recorded for the six segments of the mouth. The presence or absence of soft debris, calculus, gingivitis (in a mild or severe form) and periodontitis was noted.

In the next part of the examination, an assessment was made of whether the teeth were crowded (again looking at the six segments of the mouth), the size of the overjet and overbite (the first measured in millimetres, the second in terms of the fraction of the lower teeth covered by the upper teeth), and finally whether the upper front teeth rested in front of the lower lip when the mouth was closed. For people who had no dentures, the dental examination ended at this point although the examiner still had to record the existence of any dental anomalies but this was usually completed after the examiner and interviewer had left the informant.

The part of the examination concerning denture wearing comprised an assessment of whether the denture was adversly affecting the mouth and a description of the denture itself. It must be remembered that only dentate people were eligible for examination so the criteria for the section on adverse effects concerned only those effects related to natural teeth and the support of natural teeth. The denture description, which was recorded separately for upper and lower jaw dentures, covered whether the denture was full or partial, of what it was made, its type (toothborne, tissueborne or both), whether it was broken or dirty, whether in the examiner's opinion it needed replacement and the number of gum margins it surrounded.

2.4 The examination technique

As in the case of the criteria, a more detailed description of the examination technique will be found in Appendix B. The survey examination was carried out in the informant's home by a dental examiner seconded from the community service, who had been specially trained for the survey, with an interviewer acting as a dental recorder. The survey examiners were advised not to discuss the condition of the informant's teeth with the informant and the examination was recorded in a coded form to prevent any breach of dental etiquette.

Much emphasis was placed on designing an examination technique which would impose on informants as little as possible. The informants were asked to sit in a high backed chair, if one was available, and the examiners were supplied with hand-held examination lights. The equipment was limited to simple probes, a mirror, a small rule to measure overjet and sterilizing solution. The sterilizing solution was carried in a container which could also hold probes and mirrors. The examiners were asked to supply a sponge or cloth and towel so that they could clean their hands without imposing on the informant.

The survey dental examination itself took about 5 minutes but the length of the whole call, including introductions, setting up the equipment, settling the person to be examined and drawing the visit to a close, took something nearer 15 minutes.

2.5 Comparison of this dental examination with the 1968 survey dental examintion

Two major features distinguish the 1968 and 1978 survey dental examinations. One is the decision to exclude the edentulous from the 1978 dental examination (with the consequence that all the 1978 examination details about dentures refer only to dentures worn in conjunction with natural teeth). The other is that a different approach was used to collect information concerning the soft tissues in 1978. (See detailed examination criteria given in each report.) This change was introduced because with hindsight and greater experience the soft tissue data from the 1968 survey were not thought to be entirely satisfactory so this was one item where comparability was forsaken in order to achieve better results.

Other differences between the two examinations were either in the form of modifications which could be translated back to the 1968 examination for comparisons or additions to the amount of information collected. One modification was the different approach to bridges and crowns. In 1968 these had been coded and presented in the analysis as a separate group. In 1978 bridges were included as one category of teeth which were missing while crowns were included with the teeth which were present and so had their surfaces separately coded. Thus in 1978 it was possible to record the fact that a crown was decayed. Thus in the presentation of the UK data in Volume 2, the number of decayed teeth includes decayed crowns and the number of missing teeth includes spaces which have been bridged. However, these are minor changes and the original grouping has been used in the comparison of the 1968 and 1978 data in Volume I.

Two additions were made in 1978 to the amount of information collected in the survey dental examination. One concerned the orthodontic condition and the other the state of the tooth space where teeth were missing. The first was introduced because it was felt important to build up continuity between basic orthodontic data as collected on children's studies and the dental state of adults: while the second was a direct result of the experience of analysing the 1968 survey. The 1968 report states that 'in future...we would record for each missing tooth the size of the gap. Secondly, we would record for each missing tooth whether the space had ever been filled with a denture...(these items of information) are very necessary if any attempt is to be made to estimate the need and provision of dentures for partial tooth loss'.[1] In fact, we recorded the size of the gap only if a denture or bridge was not occupying the tooth space at the time of the examination.

The changes in design that have taken place have enabled us to retain features for which we wanted to measure change, to modify those measures which could be improved and to introduce appropriate new topics.

As was mentioned earlier, a detailed description of the criteria, examination technique and dental examiner training methods will be found in Appendix B.

Reference

[1] Gray *et al. Adult dental health in England and Wales in 1968.* HMSO 1970

3 The dental state of the population of the United Kingdom in 1978

3.1 Introduction

Volume 1 of this report[1] covered the comparison of the results of the 1978 survey with those of the England and Wales survey of 1968, and a considerable amount of information was presented on the dental condition of adults in England and Wales by a number of different variables such as age, sex, region, social class and dental attendance pattern. This volume presents similar information about the situation in 1978 for the whole of the sample, that is for the United Kingdom rather than just England and Wales, and also covers topics that were either introduced for the first time in the 1978 survey, or for which information was collected in a different way in 1978 than in the earlier survey. Before beginning the detailed exploration of these topics it is, however, important to present the basic dental health indicators for the whole of the United Kingdom in 1978.

In this chapter, therefore, we examine the proportion of people with no natural teeth, the incidence of partial denture wearing and the condition of the natural teeth for people in the United Kingdom as a whole and for people in the different countries and regions that comprise the United Kingdom. At the end of the report information is presented in tabular form for all the relevant sub-groups in the population for reference purposes, while in the following sections we show and comment on a selection of the main points of interest.

3.2 Geographical groupings

The 1978 Survey covered the whole of the United Kingdom and, though in Volume 1 of this report regional analyses were constrained by past practice, in this volume a different scheme of geographical groupings has been used for the analyses.

The extension of the survey coverage has obviously enabled comparisons to be made between England, Scotland and Wales. The sample in Scotland and Wales was enhanced with the result that Scottish data can be analysed to the same level of detail as the English data, and the Welsh sample is large enough to enable those results to be analysed to a level of detail equal to the data from the English regions. The sample in Northern Ireland was not enhanced and is thus not analysed separately but, of course, contributes to the overall statistics for the United Kingdom.

In England and Wales in 1968, data had been analysed for four large areas based on economic planning regions. However between 1968 and 1978, Regional Health Authorities were formed in England and thus it was decided that for the 1978 survey, and consequently for this volume of the report, it would be most appropriate to base any regional analysis for England on areas formed by grouping contiguous RHAs. The composition of the survey regions used are shown in Table 3.1.

Table 3.1 Grouped Regional Health Authorities

	Survey region	Regional Health Authority
Northern	North West	Mersey North Western
	North and North East	Northern Yorkshire
Midlands	West Midlands	West Midlands
	East Midlands	Trent East Anglia
Southern	South West	South Western Oxford Wessex
	North Thames	North West Thames North East Thames
	South Thames	South West Thames South East Thames

Although, when making regional comparisons within England, we present the data separately for each of the survey regions, in the text, for ease of reference, we occasionally refer to the North West and North East as the northern regions, the West and East Midlands as the midlands regions and the South West and North and South Thames as the southern regions.

3.3 The edentulous

The results in Volume 1 showed that there had been a general decrease over the last ten years in the proportion of people with no natural teeth in England and Wales and here we examine whether this general improvement still contained, in 1978, significant variation between the regions and countries of the United Kingdom.

Table 3.2 The proportion of people with no natural teeth in the United Kingdom, England, Scotland, Wales and the English regions

	Proportion with no natural teeth	
United Kingdom	30%	*4639*
England	28%	*3833*
Wales	37%	*580*
Scotland	39%	*1420*
North West	32%	*534*
North and North East	35%	*571*
West Midlands	30%	*431*
East Midlands	32%	*534*
South West	27%	*681*
North Thames	18%	*547*
South Thames	23%	*535*

Overall in the United Kingdom there were 30% of people with no natural teeth (Table 3.2). There was, however, a very large difference between this proportion in England compared with both Scotland and Wales. The country in the least favourable position with respect to total tooth loss was Scotland where 39% of the population were found to be edentulous compared with only 28% of the population in England. However, a survey in 1972 of adult dental health in Scotland[2] had found 44% of the population to be edentulous so it would appear that the dental condition of adults in that country is improving. A more detailed comparison between the results of this earlier survey and the results of the 1978 survey is presented in Chapter 5.

Within England there was also a considerable variation between the regions in the proportion of people with no natural teeth which was especially marked between the north and south of the country with 35% edentulous in the North and North East compared with 18% in the North Thames area. However, none of the English regions showed as high a proportion edentulous as either Scotland or Wales.

Total tooth loss is highly affected by age and thus it could be that geographical variations in the proportion edentulous were caused by differing geographical age structures. To investigate this possibility we look, in Table 3.3, at the proportions of people with no natural teeth grouped into ten-year age bands, and shown separately for regions and countries.

Looking first at the variation between the three countries, it can be seen that for those adults aged 35 or more, the proportion edentulous was lower in England than it was in either Scotland or Wales, and this was most marked among the 45 to 54 year olds where 28% of adults in England were found to be edentulous compared with 54% and 44% in Scotland and Wales respectively.

If we compare the proportion of people with no natural teeth in each of the different age groups in England and Scotland, it would seem that adults in England tend to keep their natural teeth ten years longer than those in Scotland.

There is evidence to suggest that the dental condition of adults in Wales will improve considerably in the future. For, though the older age groups showed high levels of edentulousness, the younger adults were in a much more favourable position, with levels of edentulousness equal to those found among the young adults in England.

Investigation of the regional variation in the proportion edentulous by age within England showed that the sample in the North Thames area marginally under-represented the older age groups with the result that the very low figure of 18% edentulous is likely to be a slight under estimate of the actual proportion in that area. This does not affect the general conclusion, since the differences between the north and south of the country in the proportion of adults with no natural teeth was apparent in all the age groups though more marked among the older adults where for example, only 29% of those aged 55 to 64 in the South Thames area were found to be edentulous compared with as many as 73% of this age group in the North and North East.

Table 3.4 shows that for each of the regions of England and countries of the United Kingdom, a higher proportion of women than of men were found to be edentulous. The geographical variations in the proportion edentulous noted earlier were, again apparent in both the sexes.

Table 3.3 The geographical variations in the proportions of people with no natural teeth in different age groups

Age	Region							Country			
	Northern		Midlands		Southern			England	Wales	Scotland	UK
	North West	North and North East	West Midlands	East Midlands	South West	North Thames	South Thames				
16–24	— *83*	— *88*	— *56*	— *90*	1% *106*	— *101*	— *81*	— *605*	— *72*	2% *244*	— *729*
25–34	7% *97*	4% *121*	2% *64*	6% *104*	2% *126*	2% *119*	1% *78*	3% *709*	4% *110*	10% *272*	4% *860*
35–44	18% *102*	13% *85*	6% *84*	14% *77*	9% *110*	9% *86*	9% *103*	11% *647*	20% *104*	27% *236*	13% *785*
45–54	32% *85*	32% *82*	37% *73*	30% *79*	27% *112*	15% *78*	22% *89*	28% *598*	44% *94*	54% *228*	32% *728*
55–64	52% *85*	73% *88*	40% *75*	54% *78*	48% *95*	31% *86*	29% *77*	47% *584*	64% *99*	64% *213*	56% *711*
65 and over	98% *81*	88% *107*	83% *77*	83% *105*	73% *131*	63% *76*	65% *107*	78% *684*	87% *101*	85% *227*	79% *821*
All ages	35% *534*	32% *571*	30% *431*	32% *534*	27% *681*	18% *547*	23% *535*	28% *3833*	37% *580*	39% *1420*	30% *4639*

Table 3.4 The geographical variations in the proportions of men and women with no natural teeth

Sex	Region							Country			
	Northern		Midlands		Southern			England	Wales	Scotland	UK
	North West	North and North East	West Midlands	East Midlands	South West	North Thames	South Thames				
Male	26% *264*	32% *267*	25% *213*	28% *254*	23% *304*	14% *239*	17% *257*	24% *1799*	34% *273*	35% *662*	25% *2176*
Female	37% *270*	38% *304*	34% *218*	35% *280*	30% *377*	20% *308*	28% *278*	32% *2034*	40% *307*	42% *758*	33% *2463*
Both sexes	32% *534*	35% *571*	30% *431*	32% *534*	27% *681*	18% *547*	23% *535*	28% *3833*	37% *580*	39% *1420*	30% *4639*

Table 3.5 The geographical variations in the proportions of people from different social class groups with no natural teeth

Social class	Region							Country			
	Northern		Midlands		Southern			England	Wales	Scotland	UK
	North West	North and North East	West Midlands	East Midlands	South West	North Thames	South Thames				
I, II, III non-manual	23% *175*	25% *166*	20% *135*	25% *157*	22% *257*	13% *268*	17% *224*	20% *1382*	29% *202*	32% *502*	22% *1658*
III manual	33% *177*	37% *207*	27% *175*	33% *206*	22% *225*	16% *140*	18% *164*	27% *1294*	38% *211*	38% *489*	29% *1561*
IV, V	38% *133*	37% *140*	42% *91*	35% *136*	40% *127*	29% *77*	36% *97*	37% *801*	40% *114*	45% *321*	38% *976*
All adults*	32% *534*	35% *571*	30% *431*	32% *534*	27% *681*	18% *547*	23% *535*	28% *3833*	37% *580*	39% *1420*	30% *4639*

* *Includes housewife, student, unemployed and unclassifiable categories not included elsewhere on the table.*

Table 3.6 Geographical variations in the dental state of adults

Dental state	Region							Country			
	Northern		Midlands		Southern			England	Wales	Scotland	UK
	North West	North and North East	West Midlands	East Midlands	South West	North Thames	South Thames				
	%	%	%	%	%	%	%	%	%	%	%
Natural teeth only	49	46	49	50	50	58	55	51	44	40	49
Partial dentures	19	19	21	18	23	24	22	21	19	21	21
Edentulous	32	35	30	32	27	18	23	28	37	39	30
Total	100	100	100	100	100	100	100	100	100	100	100
Base	*534*	*571*	*431*	*534*	*681*	*541*	*535*	*3833*	*580*	*1420*	*4639*

The final variable that we examine with respect to region and total tooth loss is social class (Table 3.5). Again, it can be seen that the higher overall proportion of adults with no natural teeth in Scotland and Wales is reflected in each of the social class groups.

Within England, the most variability between regions in this proportion was found among people in Social Class III manual with 37% edentulous in this class in the North and North East compared with 18% in the same class in the South Thames area.

In the northern regions of England the proportion edentulous among the skilled manual social class was similar to the proportion edentulous among those from Social Classes IV and V. However, in the southern regions, the proportion edentulous in Social Class III manual was similar to the proportion found among the top social classes. It is of interest to see that while Scotland showed neither of these relationships between social classes, in Wales the proportion edentulous in the different social class groups showed a similar relationship to that found in the northern regions of England.

3.4 Partial denture wearers

Unlike the edentulous, who have reached an irreversible stage in their dental history, the section of the population who have been provided with partial dentures is a much less homogeneous group. Not only does the type of denture provided vary considerably between different members of the group but also the membership itself will vary as people enter the group from a position or total reliance on natural teeth and others leave as they become edentulous.

However, as a group, partial denture wearers do have their own specific problems and experiences and these will be examined later in the report. In this chapter, we consider only the size of this group and how it varies between the different geographical areas of the United Kingdom.

In Volume 1 we saw that though the overall incidence of partial denture wearing had remained similar in England and Wales in the ten years between the surveys, the proportion of partial denture wearers among the younger adults had decreased while the proportion among the older adults had increased.

Table 3.6 shows the geographical variations in the proportion of adults with a total reliance on their natural dentition, adults who were partially dentured and adults with no natural teeth. Overall, between England, Wales and Scotland, there was no difference in the proportions of adults who were dentate and had been provided with partial dentures. Within England, however, there was a slightly higher proportion of adults in the south than in the north who had been provided with partial dentures.

Table 3.7 The geographical variation in the provision of partial dentures for people from different age groups

Age	Region							Country			
	Northern		Midlands		Southern			England	Wales	Scotland	UK
	North West	North and North East	West Midlands	East Midlands	South West	North Thames	South Thames				
16 – 24	6% *83*	8% *88*	9% *56*	4% *90*	7% *106*	3% *101*	1% *81*	5% *605*	7% *72*	12% *244*	6% *729*
25 – 34	16% *97*	18% *121*	11% *64*	15% *104*	15% *126*	16% *119*	10% *78*	15% *709*	23% *110*	27% *272*	17% *860*
35 – 44	26% *102*	27% *85*	24% *84*	25% *77*	28% *110*	21% *86*	26% *103*	25% *647*	23% *104*	29% *236*	26% *785*
45 – 54	32% *85*	30% *82*	32% *73*	35% *79*	37% *112*	48% *78*	31% *89*	35% *598*	30% *94*	27% *228*	34% *728*
55 – 64	27% *85*	16% *88*	37% *75*	26% *78*	30% *95*	36% *86*	45% *77*	31% *584*	21% *99*	24% *213*	29% *711*
65 and over	4% *81*	10% *107*	8% *77*	7% *105*	22% *131*	31% *76*	20% *107*	15% *685*	8% *101*	9% *227*	14% *821*
All ages	19% *534*	19% *571*	21% *431*	18% *534*	23% *681*	24% *547*	22% *535*	21% *3833*	19% *580*	21% *1420*	21% *4639*

Just as was found in the comparison over ten years, there was a variation between the three countries, in the proportion of partial denture wearers in the different ten year age groups (Table 3.7). The figures show that in both England and Wales there was a peak of partial denture wearing that occurred among those aged 45 to 54 (among whom about one in three people had been provided with a partial denture) while in Scotland, there was hardly a peak at all, the prevalence of partial denture wearing being similar in the age range 25 to 54.

The figures also show that the proportion of adults aged less than 45 who had been provided with partial dentures was greatest in Scotland and least among people in England, while the proportion of adults aged 45 or over who had partial dentures was greater in England than in the other two countries.

This suggests that the younger adults in England were maintaining a complete reliance on their natural dentition longer than those in Scotland while among the older adults, the differences seen earlier in the levels of total tooth loss between the three countries, seems to be partly accounted for by a higher prevalence of partial denture wearers among these adults in England than in either Scotland or Wales.

We have already seen that within England there was, overall a slightly higher proportion of adults in the south of the country than in the north, who had been provided with partial dentures. Table 3.7 shows that these differences were particularly marked among the older adults (for example 22% of adults aged 65 and over in the South West had partial dentures, compared with just 4% of this age group in the North West). Thus again we can see a relationship among the older adults between the provision of partial dentures and the levels of edentulous as it is likely that adults in the south are delaying total tooth loss by being provided with dentures to wear in conjunction with their natural teeth.

Among the younger adults, we again see that the north is in a less favourable position than the south as a slightly higher proportion of the younger northern adults had a partial denture compared with those in the south.

3.5 The condition of the natural teeth

In the survey dental examination each tooth was recorded initially as being present, missing, unrestorably decayed or crowned. For each tooth that was recorded as missing, information was collected as to whether it had been replaced by a denture or a bridge, or whether or not there was a space left at that tooth position. For every tooth recorded as present, unrestorably decayed or crowned, the condition of each surface was recorded in terms of sound and untreated, decayed or filled (it was thus possible to record the presence of crowned teeth that needed treatment). Information regarding the separate surfaces was combined at the computing stage so that the overall condition of each tooth was known. Thus, each of the 32 tooth positions was classified into one of the following categories:

Sound and untreated		
Filled otherwise sound		Filled (otherwise sound)
Crowned and sound	Crowned	
Crowned needing treatment		Decayed
Decayed and filled		
Decayed, not previously treated		
Unrestorably decayed		
Missing, not replaced by a bridge		Missing*
Missing, replaced by a bridge		

Initially we look at a summary table of the mean number of teeth found in the above condition among the dentate population in the different geographical areas of the United Kingdom (Table 3.8). In this table teeth which were unrestorable, crowned and bridged have been presented separately but in later tables unrestorable teeth have been grouped with decayed teeth, bridges have been grouped with missing teeth and crowned teeth have been classified as filled (otherwise

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* Data regarding the presence or absence of a denture or the size of a space left by a missing tooth were collected for the analysis of denture need and are not relevant to the study of tooth condition. The missing category includes teeth which were missing for any reason.

Table 3.8 The mean number of teeth in the various conditions among the dentate population in the different regions and countries of the United Kingdom

Tooth condition	Region							Country			
	Northern		Midlands		Southern			England	Wales	Scotland	UK
	North West	North and North East	West Midlands	East Midlands	South West	North Thames	South Thames				
Sound and untreated	13.3	13.3	14.4	14.2	12.9	13.0	12.0	13.2	13.3	11.3	13.0
Crowned	0.2	0.2	0.2	0.2	0.2	0.4	0.5	0.3	0.2	0.2	0.3
Filled (otherwise sound)	6.3	7.0	6.9	7.1	8.9	8.9	8.8	7.8	7.1	7.9	7.8
Filled and decayed	0.8	1.2	0.3	0.7	0.5	1.0	0.9	0.8	0.6	0.8	0.7
Decayed, not previously treated	1.2 }3.3	1.7 }3.3	0.7 }1.4	0.9 }2.1	0.5 }1.2	0.6 }1.8	0.6 }1.7	0.9 }2.0	0.7 }1.8	1.1 }2.2	0.9 }1.9
Unrestorable	0.3	0.4	0.4	0.5	0.2	0.2	0.2	0.3	0.5	0.3	0.3
Bridged	—	—	—	—	—	0.1	0.1	—	—	—	—
Missing	9.9	8.2	9.1	8.4	8.8	7.8	8.9	8.7	9.6	10.4	9.0
Total	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Base	*303*	*317*	*266*	*324*	*423*	*387*	*330*	*2350*	*326*	*748*	*2784*

Table 3.9 The geographical distributions of the proportions of dentate adults in different age groups with fewer than six missing teeth

Age	Region							Country			
	Northern		Midlands		Southern			England	Wales	Scotland	UK
	North West	North and North East	West Midlands	East Midlands	South West	North Thames	South Thames				
16–34	51% *145*	56% *180*	59% *109*	61% *174*	65% *201*	72% *194*	73% *135*	63% *1138*	52% *164*	38% *422*	60% *1370*
35 and over	9% *198*	20% *137*	18% *157*	17% *149*	22% *222*	24% *193*	26% *195*	20% *1212*	16% *161*	13% *326*	19% *1413*
All ages	29% *303*	41% *317*	35% *266*	40% *324*	43% *423*	48% *387*	45% *330*	41% *2350*	34% *326*	27% *748*	39% *2784*

sound) unless the crown was in need of treatment in which case it has been included with the decayed teeth.

Among dentate adults in the United Kingdom as a whole there were, on average, 9 missing teeth, 13 sound and untreated teeth, 7.8 teeth that were restored and sound, 1.9 teeth that were decayed (or in need of treatment*) and 0.3 crowned teeth. On average, dentate adults in Scotland had more missing teeth and fewer sound teeth than was found among dentate adults in either England or Wales, and within England, there was on average a higher number of missing teeth and a higher number of teeth that were decayed among the dentate adults in the north compared with those in the south of the country.

Although a geographical comparison of the mean number of teeth in each condition is a useful indicator of the differences in the state of dental health over the United Kingdom, it is perhaps more informative to look at how the distributions of the different tooth conditions varied. Tables giving the complete distributions are included at the end of the report, while here we present and comment upon some of the extremes of these distributions and show how they varied between the regions and countries of the UK.

A dentate adult may have no teeth missing or may have any number missing from one to thirty one (obviously a person with 32 teeth missing would be edentulous). In terms of dental health, the most favourable situation would be to have very few missing teeth while the least favourable would be to have a large number of missing teeth.

Table 3.9 shows, for each of the regions, the proportions of dentate adults with fewer than six teeth missing. It can be seen that there was considerable geographical variation in this proportion, which was as low as 27% in Scotland compared with 34% in Wales and 41% in England. The major variation between the three countries occurred among the younger dentate adults where 38% of those in Scotland had fewer than six missing teeth compared with 63% in England.

Among adults of all ages in England, two regions showed unfavourably low proportions with fewer than six missing teeth compared with the trend in the rest of

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* The category 'decay' comprises teeth that were filled and decayed, decayed and previously untreated, and teeth which were unrestorably decayed. Teeth which had unsound fillings were recorded as filled and decayed and thus the overall category 'decay' covers all teeth that were in need of treatment, rather than just those which were actively decayed.

Table 3.10 The geographical distribution of the proportions of dentate adults in different age groups with 18 or more missing teeth

Age	Region							Country			
	Northern		Midlands		Southern			England	Wales	Scotland	UK
	North West	North and North East	West Midlands	East Midlands	South West	North Thames	South Thames				
16 – 34	1% *145*	2% *180*	2% *109*	3% *174*	2% *201*	— *194*	2% *135*	2% *1138*	3% *164*	6% *422*	3% *1370*
35 and over	29% *158*	19% *137*	24% *157*	23% *149*	23% *222*	21% *193*	24% *195*	23% *1212*	25% *161*	32% *326*	24% *1413*
All ages	16% *303*	9% *317*	15% *266*	12% *324*	13% *423*	11% *387*	15% *330*	13% *2350*	16% *326*	18% *748*	13% *2784*

Table 3.11 The geographical distribution of the proportions of dentate adults in different age groups with no teeth which were filled (otherwise sound)

Age	Region							Country			
	Northern		Midlands		Southern			England	Wales	Scotland	UK
	North West	North and North East	West Midlands	East Midlands	South West	North Thames	South Thames				
16 – 34	15% *145*	14% *180*	15% *109*	10% *174*	8% *201*	4% *194*	3% *135*	9% *1138*	10% *165*	10% *422*	10% *1370*
35 and over	23% *158*	25% *137*	28% *157*	25% *149*	12% *222*	5% *193*	12% *195*	18% *1211*	27% *161*	23% *326*	18% *1413*
All ages	19% *303*	19% *317*	23% *266*	17% *324*	10% *423*	4% *387*	8% *330*	14% *2350*	19% *326*	16% *748*	14% *2784*

the country — the North West (29%) and the West Midlands (35%). In the other regions there was a slightly higher overall proportion of adults in the south of the country with fewer than six missing teeth, and in both the North and South Thames regions the young adults were in a particularly favourable position with over 70% having fewer than six teeth missing.

We have been looking at the favourable situation of having very few missing teeth. In order to look at the other end of the scale, we show the proportion of dentate adults who had lost 18 or more teeth.

Of dentate adults in the United Kingdom, 13% had 18 or more teeth missing and though this proportion varied geographically, it can be seen from Table 3.10 that the variation was largely confined to the older age group. As one would expect from the last analysis, Scotland was again in the least fortunate position with 32% of dentate adults aged 35 and over, having 18 or more missing teeth compared to 23% in England.

Among these older adults in England, there was a significantly smaller proportion from the North and North East with 18 or more missing teeth, compared with the other regions. It was seen earlier in the chapter that, of the English regions, the North and North East had the highest proportion of adults with no natural teeth. It may be that a higher proportion of adults in this region become edentulous rather than retain a natural dentition in which fewer than half the natural teeth are present.

We turn next to look at the condition of the teeth that were still present in the mouth. These teeth were classified into three categories — sound and untreated, filled (otherwise sound) and actively decayed. Our analyses in this chapter concentrates on data about filled (otherwise sound) teeth and decayed teeth, as these provide information on past treatment and current treatment need, as measured in the home dental examination.

Again, the data presented within the chapter is summarised and has been selected to demonstrate the main survey findings. The detailed information showing all three categories of teeth is presented in tabular form at the end of the report.

We begin the analysis of the condition of the teeth present in the mouth, by looking at teeth which were filled (otherwise sound). Since we know that the majority of adults experience dental decay, the filling of teeth plays a vital role in helping people to retain their natural dentition. Until such time as the incidence of dental decay is reduced, one would therefore hope that most dentate adults would have some restored teeth.

Among dentate adults in the United Kingdom, 14% were found to have no teeth which were filled (otherwise sound) and, over all ages, there was a slight variation in this proportion between England, Wales and Scotland, with England being in the most favourable position with just 14% of dentate adults having no filled teeth compared with 16% in Scotland and 19% in Wales (Table 3.11). Among the young dentate adults there was no difference in the proportion with no filled teeth between the three countries, but there was considerable variation in this proportion among adults aged 35 and over, with as many as 27% of these adults in Wales having no filled teeth, compared with just 18% in England.

Table 3.12 Geographical distribution of the proportions of dentate adults in different age groups with some decay

Age	Region							Country			
	Northern		Midlands		Southern			England	Wales	Scotland	UK
	North West	North and North East	West Midlands	East Midlands	South West	North Thames	South Thames				
16–34	73% *145*	69% *180*	43% *109*	64% *174*	44% *201*	62% *194*	56% *135*	59% *1138*	56% *164*	67% *422*	59% *1370*
35 and over	67% *158*	74% *137*	47% *157*	62% *149*	48% *222*	68% *193*	62% *195*	60% *1212*	56% *161*	55% *326*	60% *1413*
All ages	70% *303*	71% *317*	46% *266*	64% *324*	46% *423*	65% *387*	60% *330*	60% *2350*	56% *326*	62% *748*	60% *2784*

Table 3.13 The geographical distribution of dentate adults with fewer than six missing teeth by attendance pattern

Attendance pattern	Region							Country			
	Northern		Midlands		Southern			England	Wales	Scotland	UK
	North West	North and North East	West Midlands	East Midlands	South West	North Thames	South Thames				
Those who attend for a regular check-up	37% *113*	44% *145*	38% *120*	43% *162*	50% *215*	50% *175*	50% *161*	45% *1091*	40% *135*	36% *296*	44% *1270*
Those who attend only having trouble	23% *153*	40% *129*	30% *115*	33% *123*	28% *148*	39% *140*	41% *119*	33% *927*	27% *134*	18% *331*	30% *1113*
All dentate adults	29% *303*	41% *317*	35% *266*	40% *324*	43% *423*	48% *387*	45% *330*	41% *2350*	34% *326*	27% *748*	39% *2784*

Within England, the highest proportion of dentate adults with no teeth which were filled (otherwise sound) was found in the West Midlands area (23%), though, generally the northern areas of the country had a higher proportion of adults with no filled teeth than the south. In each of the English regions, the proportion of people with no fillings was higher among the older dentate adults than among the younger dentate adults (although the differences in the North Thames area and the South West were not statistically significant). The variation between regions was such that the proportion of older dentate adults in the south with no fillings was less than the proportion with no fillings among the younger adults in the north.

These results indicate that more restorative treatment had taken place among the adults in England as a whole than in Scotland or Wales, and that within England, it was the dentate adults in the north of the country who had experienced the least restorative treatment.

Just as the presence of filled teeth represents past treatment, the presence of decay represents a current treatment need. Table 3.12 shows the proportions of dentate adults found to have some decayed* teeth.

In the United Kingdom, as many as three out of five dentate adults were found to have some decay. Of the three countries, Wales had the lowest proportion of dentate adults with some decay, (although there was no statistically significant difference between the proportion in Wales and that in England). Among the younger adults, Scotland had a higher proportion with decay than the other two countries while among the older adults, the proportion in Scotland with decay was significantly lower than the proportion in England (55% compared with 60%). We have already seen that there was a relatively high proportion of older adults in Scotland with large numbers of missing teeth, which could possibly account for these differences in the proportions with decay.

Within England, the West Midlands and the South West were found to have a much smaller proportion of adults with some decay compared with the other regions, and, in fact, were the only areas in which more than half of the dentate population were found to be decay free. The West Midlands area was also shown to have a high proportion of adults with no filled teeth, and these two results might possibly be an indication that the prevalance of dental disease in that area was, in fact, lower than the rest of the country.

We have, in this section, seen that the condition of the natural teeth varied considerably between different areas of the United Kingdom. However, it is known that one of the most important factors associated with a persons's oral condition is their dental attendance pattern. Dental attendance patterns are examined in detail in Chapter 9, but it is important here to see whether a regional variation in the proportions of adults who attend for a regular check-up explains the regional variation in the condition of the natural teeth.

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* See footnote on page 11.

Table 3.14 The geographical distribution of dentate adults with no teeth which were filled (otherwise sound) by attendance pattern

Attendance pattern	Region							Country			
	Northern		Midlands		Southern			England	Wales	Scotland	UK
	North West	North and North East	West Midlands	East Midlands	South West	North Thames	South Thames				
Those who attend for a regular check-up	— *113*	1% *145*	2% *120*	1% *162*	— *215*	1% *175*	1% *175*	1% *1091*	1% *135*	1% *296*	1% *1270*
Those who attend only when having touble	35% *153*	40% *129*	44% *115*	38% *123*	25% *148*	10% *140*	19% *119*	30% *927*	41% *134*	31% *331*	31% *1113*
All dentate adults	19% *303*	19% *317*	23% *266*	17% *324*	10% *423*	4% *387*	8% *330*	14% *2350*	19% *326*	16% *748*	14% *2784*

Table 3.15 The geographical distribution of dentate adults with some decay by attendance pattern

Attendance pattern	Region							Country			
	Northern		Midlands		Southern			England	Wales	Scotland	UK
	North West	North and North East	West Midlands	East Midlands	South West	North Thames	South Thames				
Those who attend for a regular check-up	57% *113*	62% *145*	29% *120*	52% *162*	37% *215*	63% *175*	48% *161*	48% *1091*	41% *135*	44% *296*	48% *1270*
Those who attend only when having trouble	78% *153*	84% *129*	61% *115*	78% *123*	57% *148*	69% *140*	75% *119*	72% *927*	74% *134*	78% *331*	57% *381*
All dentate adults	70% *303*	71% *317*	46% *266*	64% *324*	46% *423*	65% *387*	60% *330*	60% *2350*	56% *326*	62% *748*	60% *2784*

In Table 3.13 we return to the regional differences in the proportion of dentate adults with fewer than six missing teeth, but examine them separately according to whether a person was a regular attender or attended only when having trouble with their teeth[†].

It can be seen that the differences between England, Wales and Scotland in the proportion of dentate adults with fewer than six teeth missing was apparent in both these dental attendance pattern groups and that the largest variation was found between adults in England and adults in Scotland who attend the dentist only when having trouble with their teeth, where 33% of these adults in England had fewer than six teeth missing compared with the unfavourably low proportion of 18% in Scotland.

It was noted earlier that, within England, the North West and the West Midlands regions showed unfavourably low proportions of adults with fewer than six teeth missing and it can be seen from Table 3.13, that these low proportions were apparent in both the attendance pattern groups although, among the irregular attenders, the South West also had a compartively low proportion (28%) of adults with fewer than six missing teeth.

In Table 3.14, we look again at the geographical variations in the proportions of dentate adults with no teeth which were filled (otherwise sound), but concentrate here on the differences found within the two main dental attendance pattern groups.

It is obvious from the table that it is the geographical variation in the proportion of adults with no filled teeth among the irregular dental attenders which contributes to the overall differences between the regions. The differences found among this group of dental attenders were very large with, for example, 44% of the relevant adults in the West Midlands having no teeth which were filled (otherwise sound) compared with just 10% in the North Thames Area.

A similar analysis carried out on the proportion of dentate adults with some decay (Table 3.15) shows that, while a lower proportion of regular attenders had some decay compared with those who attend the dentist only when having trouble with their teeth, there was considerable geograpical variation within each dental attendance pattern group, particularly between the English regions. In some regions those who attend only when having trouble with their teeth were in a similar position as regards decay as regular attenders from other regions. (For example, 57% of irregular attenders in the South West had some decay compared with 63% of regular attenders in the North Thames area.)

[†] Dental attendance pattern was ascertained by the question *'In general, do you go to the dentist for a regular check-up, an occasional check-up or only when you're having trouble with your* teeth?' Here we have concentrated our analysis on the two main groups—the regular attenders and those who attend only when having trouble with their teeth.

In the United Kingdom as a whole 48% of regular attenders had some decay compared with 57% of those who attend only when having trouble with their teeth. The majority of teeth classified as decayed among the irregular attenders had not previously been treated while among the regular attenders the majority were classed as 'filled and decayed'. The latter category included, in addition to teeth which were filled and actively decayed, teeth which, in the dentists' opinion, had fillings which were in need of replacement.

3.6 Conclusions

In this chapter we have examined some indicators of dental health in the United Kingdom and from these we are able to identify certain geographical variations.

The most obvious conclusion that can be drawn is that adults in England are in a better position with regard to dental care and the preservation of teeth than those in either Scotland or Wales.

The indicators show that, of the three countries, Scotland was in the least favourable position though in many cases there was no difference between the position in Scotland and that in Wales. Among the younger adults those in Wales appeared to be in a better position than those in Scotland and, in fact, in some cases showed a marked similarity to the young adults in England.

Among the regional health authorities of England, those in the south of the country were, on the whole, in a better position, dentally, than those in the north. This was more apparent in the measures of total tooth loss than in the measures of the different tooth conditions. Generally, the regions of England that showed the worst dental conditions were nevertheless in a more favourable position than Scotland as a whole.

References

[1] Todd and Walker *Adult dental health Volume 1 England and Wales 1968 – 1978* HMSO 1980

[2] Todd and Whitworth *Adult dental health in Scotland 1972* HMSO 1974

4 The dental condition of different tooth types

4.1 Introduction

In the previous chapter we used information recorded at the dental examination to look at the dental condition of dentate people in the United Kingdom in 1978 and, also, to make some comparisons between the state of dental health in the different regions and countries of the UK. For those analyses, indicators of dental health such as the number of missing teeth, filled teeth or decayed teeth a person had, were used but no distinction was made as to which tooth types were involved in each of the conditions. However, the impact of disease and treatment varies for the different tooth types in the mouth and in this chapter these variations are examined in some detail.

Initially, we look at each of the thirty two tooth types among dentate adults of different ages and with different attendance patterns from the United Kingdom, England, Wales and Scotland. We then look in more detail at two tooth types of particular interest, the first and third permanent molars, to see the impact that disease and treatment have had on them.

4.2 The condition of different tooth types in the United Kingdom

Figures 4.1 to 4.16 show proportions of each tooth type that were classified as missing, sound and untreated, actively decayed or filled (otherwise sound). The figures are made up of the upper and lower jaws, with the latter being inverted to represent the mouth. (The data from which these figures were constructed are presented in a tabular form at the end of the report). For easy reference teeth are generally numbered in quadrants starting at the front of the mouth with the incisors ('ones') and ending with the wisdom teeth ('eights').

Figures 4.1 to 4.4 show the situation for dentate adults from the United Kingdom in two broad age groups (16 to 34 and 35 and over) and, within each age group, results are shown separately for people with the two major attendance patterns (those who attend for a regular check-up and those who go to the dentist only when having trouble with their teeth).

Overall, it can be seen that the older adults had on average more missing teeth than the younger adults with the older adults who attended only when having trouble with their teeth being in a particularly unfavourable position with regard to missing teeth. Regular attenders had, on average, more teeth which were filled (otherwise sound), than those who attend only when having trouble and this latter group had on average more teeth classified as decayed than the regular attenders.

Looking firstly at the lower jaw, it can be seen that in each of the figures there was as higher proportion of canines and incisors than molars and premolars, present in the jaw. There was, also, a lower proportion of these teeth that were filled (otherwise sound) compared with teeth in the posterior segments and in all cases, except among the older irregular dental attenders, a lower proportion of the canines and incisors were classified as decayed, compared with teeth elsewhere in the lower jaw.

The pattern in the upper jaw was very similar except that among the younger adults the proportions of 'sevens' present was similar to the proportion of incisors present. In fact, in all the groups and in both jaws there were proportionally more 'sevens' present than any other teeth in the posterior segments and, among the younger irregular dental attenders there was of all the tooth types in the mouth, the highest proportion of teeth classified as decayed, at this tooth position.

In each of the groups, there was a comparatively low proportion of wisdom teeth ('eights') present and this was so among the younger adults as well as the older ones, as some wisdom teeth would not yet have erupted among the young. The subject of wisdom teeth is studied in more detail later in the chapter.

Figures 4.5 to 4.16 show the condition of the natural teeth for dentate adults by age and attendance pattern separately for England, Scotland and Wales. As an overall picture they show the differences in dental health between the three countries that were discussed in the previous chapter. The difference between the four age and attendance pattern groups are similar to those already described for the whole of the United Kingdom.

Comparing England, Wales and Scotland and looking first at those adults aged 16 to 34 who attended for a regular check-up, it can be seen that there was very little difference in the distribution of treatment and decay around the mouth between the three countries (Figures 4.5, 4.9 and 4.13). The only difference to be seen is between the condition of the lower jaw 'sevens' where, in England and Scotland this tooth position had the highest recorded porportion of decayed teeth in the lower jaw, while in Wales a comparatively low proportion of these teeth were classified as decayed.

Comparing the condition of the different tooth types for younger dentate adults who visited the dentist only when they had trouble with their teeth, shows an interesting geographical variation in the condition of the 'sixes'. The variation in the condition of 'sixes' is discussed in more detail later in the chapter.

The remaining figures show the situation for the dentate adults aged 35 or more, again, as with the younger adults, shown separately for those who attend the dentist for a regular check-up and those who go to the dentist only when having trouble with their teeth. A regional comparison between England, Scotland and Wales shows the overall regional differences in the state of dental health between the three countries that were discussed in the previous chapter (Section 3.5). There appears, however, to be little regional variation in the distribution of the effects of decay and treatment around the mouth for these older dentate adults.

4.3 The 'sixes'

The 'sixes' are the first permanent molars. They erupt early in childhood, in fact at the age of about six years. Dental health and dental care in these early years are both clearly vital in laying the foundations for future reliance on natural teeth throughout adult life. Unfortunately many of the public are unaware of how early in life these permanent molars appear and do not realise that if exposed to decay without adequate treatment these teeth may be extracted during childhood and never contribute to adult reliance on natural teeth.

Results of surveys show a pattern of extraction which occurs more frequently in the lower jaw than the upper jaw but is fairly symmetrical. The study of children's dental health carried out in 1973[1] showed that among fourteen year olds 21% had already lost their lower right 'six' and 14% had already lost their upper right 'six'. Even among ten year olds, 9% had lost their lower right 'six' and 6% had lost their upper right 'six'.

The 1968 Adult Dental Health Survey showed that among young dentate adults aged 16 to 34 in England and Wales 50% had lost their lower right 'six' and 37% had lost their upper right 'six'.

The 1978 survey provides information about young dentate adults in the UK and also shows the variation between countries and dental attendance patterns (Table 4.1).

In 1978, 44% of young dentate adults in the UK had lost their lower right 'six', and 33% had lost their upper right 'six'. The position was better in England than in other countries of the UK for both upper and lower jaws, 39% of lower right 'sixes' were missing and 27% of upper right 'sixes' were missing. Wales and Scotland were similar to each other in the situations for the upper jaw 'sixes' but in Scotland a higher proportion of lower jaw 'sixes' were missing than was the case in Wales.

Among both the young regular dental attenders and among the young adults who attend only when having trouble with their teeth, those from England were in a more favourable position than those from Scotland or Wales with regard to the loss of the individual 'sixes'. The group in the least favourable position was the young adults in Scotland who attend only when having trouble with their teeth where as many as 75% had lost their lower left 'six'.

Table 4.1 also shows the proportions of young dentate adults who had lost all their 'sixes'. Overall, 12% of young dentate adults in the UK had lost all their 'sixes' but this proportion varied considerably between the three countries with 10% of young dentate adults in England having lost all of these teeth compared with 25% in Scotland.

A lower proportion of regular attenders than those who attend only when having trouble with their teeth had lost all their 'sixes' and again within both these groups, a higher proportion of young adults from Scotland and Wales had lost all their 'sixes' compared with those from England, the proportion being over one third in Scotland.

4.4 Wisdom teeth

The tooth type that showed the lowest proportion of teeth present among dentate adults aged 16 – 34 in the United Kingdom was that of the 'eights' or third permanent molars. The third molars, often called

Table 4.1 Dentate adults aged 16 to 34 who had lost their 'sixes'

	Upper left 'six'	Upper right 'six'	Lower left 'six'	Lower right 'six'	Lost all four 'sixes'	*Base*
	Dentate adults aged 16 – 34 who attend for a regular check-up					
UK	27%	27%	36%	34%	9%	*652*
England	26%	25%	32%	33%	8%	*553*
Wales	42%	51%	50%	53%	22%	*71*
Scotland	35%	30%	51%	43%	16%	*165*
	Dentate adults aged 16 – 34 who attend only when having trouble					
UK	37%	34%	46%	47%	16%	*480*
England	34%	29%	43%	44%	12%	*389*
Wales	44%	46%	51%	53%	26%	*62*
Scotland	53%	59%	75%	65%	35%	*181*
	Dentate adults aged 16 – 34					
UK	34%	33%	45%	44%	12%	*1371*
England	30%	27%	38%	39%	10%	*1139*
Wales	44%	46%	49%	52%	24%	*165*
Scotland	43%	43%	62%	55%	25%	*423*

Adults from the United Kingdom with some natural teeth.

Figure 4.1 *Adults aged 16-34 who attend for a regular check-up.*

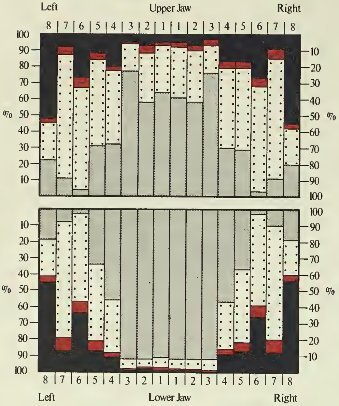


Figure 4.2 *Adults aged 16-34 who attend only when having trouble.*

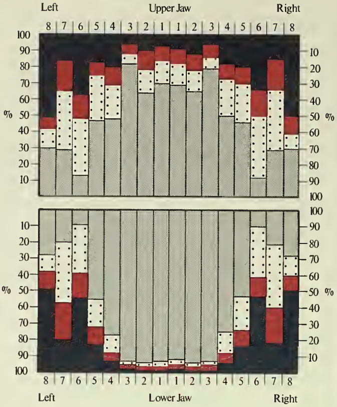


Figure 4.3 *Adults aged 35 or more who attend for a regular check-up.*

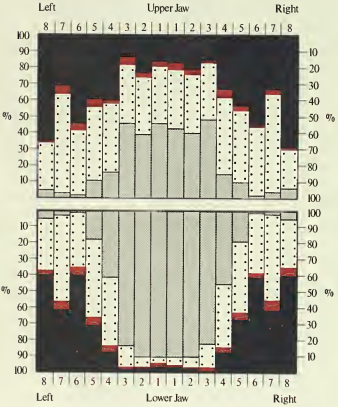
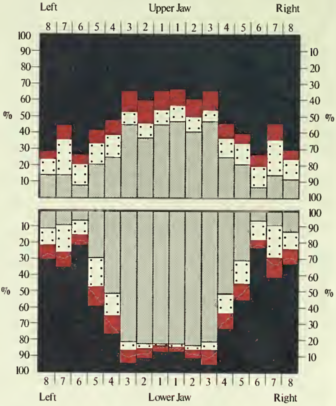


Figure 4.4 *Adults aged 35 or more who attend only when having trouble.*



KEY ■ Missing 🟥 Active decay ⁙ Filled (otherwise sound) ▨ Sound and untreated

Adults from England with some natural teeth.

Figure 4.5 *Adults aged 16-34 who attend for a regular check-up.*

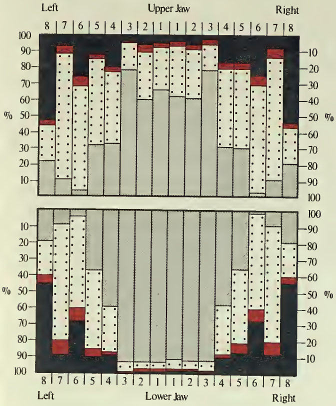


Figure 4.6 *Adults aged 16-34 who attend only when having trouble.*

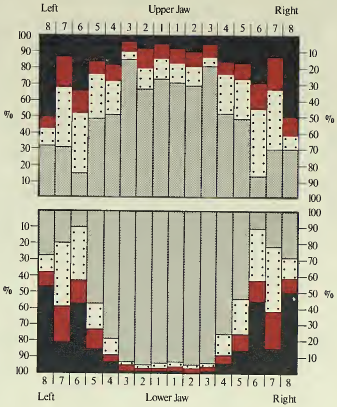


Figure 4.7 *Adults aged 35 or more who attend for a regular check-up.*

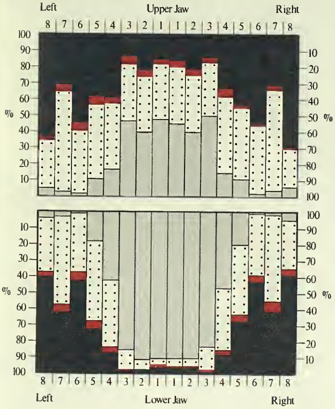
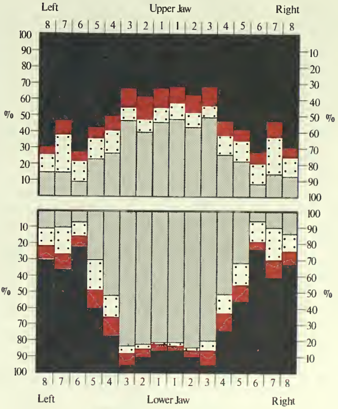


Figure 4.8 *Adults aged 35 or more who attend only when having trouble.*



KEY ■ Missing 🟥 Active decay ⁘ Filled (otherwise sound) ▨ Sound and untreated

Adults from Scotland with some natural teeth.

Figure 4.9 *Adults aged 16-34 who attend for a regular check-up.*

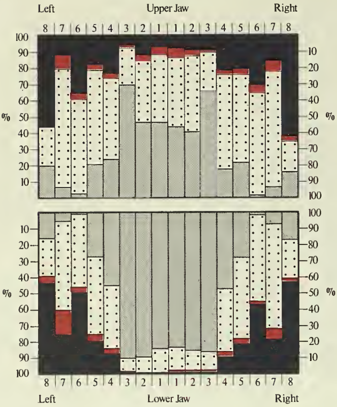


Figure 4.10 *Adults aged 16-34 who attend only when having trouble.*

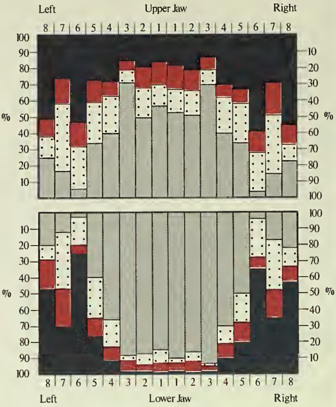


Figure 4.11 *Adults aged 35 or more who attend for a regular check-up.*

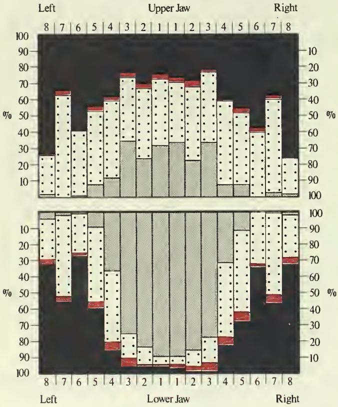
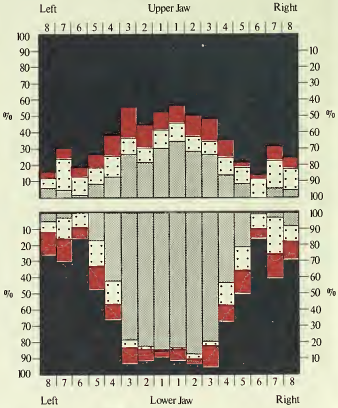


Figure 4.12 *Adults aged 35 or more who attend only when having trouble.*



KEY ■ Missing 🟥 Active decay ⁘ Filled (otherwise sound) ▨ Sound and untreated

Adults from Wales with some natural teeth.

Figure 4.13 *Adults aged 16-34 who attend for a regular check-up.*

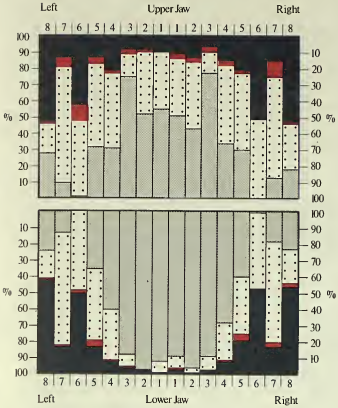


Figure 4.14 *Adults aged 16-34 who attend only when having trouble.*

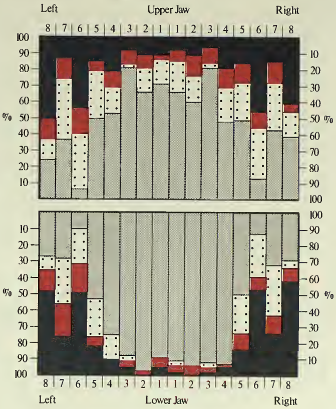


Figure 4.15 *Adults aged 35 or more who attend for a regular check-up.*

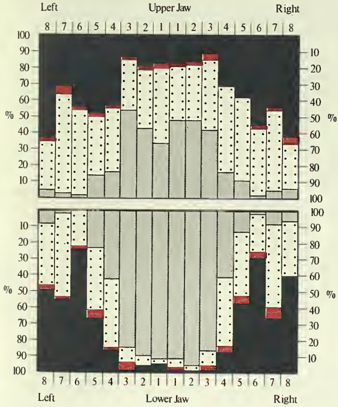
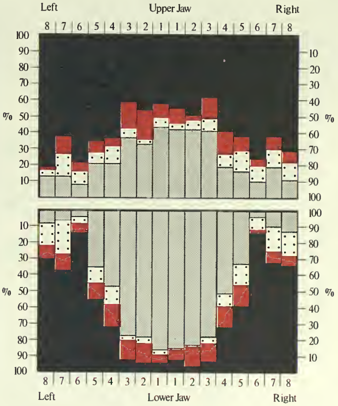


Figure 4.16 *Adults aged 35 or more who attend only when having trouble.*



KEY ■ Missing 🟥 Active decay ⁘ Filled (otherwise sound) ▨ Sound and untreated

wisdom teeth erupt last of all the permanent dentition: in some cases they never erupt while in others they are never formed. For some people the eruption of wisdom teeth causes dental problems and the teeth have to be extracted before they have, in fact, erupted into the mouth. From the data recorded during the survey dental examination it is impossible to tell whether missing wisdom teeth had been extracted, whether they had never erupted or, indeed, whether they had ever formed. To obtain some estimate of this we asked dentate adults, during the interview, for each of the four wisdom teeth whether the tooth had erupted or not and, if so, whether it had been extracted or not.

Table 4.2 presents, for all the younger dentate adults who were examined, the dentists assessment as to the presence or absence of the wisdom teeth and the informants own assessment. Firstly, looking at those teeth which the dentist said were present, it can be seen that about two thirds of the informants also thought that these teeth were present. There was a slightly higher proportion of the younger adults who thought that their lower 'eights' were present compared with the upper 'eights'—72% of young dentate adults who were recorded as having a lower right 'eight' present said that this tooth was present while 63% of those who were recorded as having an upper right 'eight' present said that this tooth was present. A very small proportion of people said that a tooth which was recorded as present had been extracted while about one fifth said that the tooth had not erupted.

Looking at those teeth which the dentist recorded as not present, it can be seen that about one third of informants thought that these teeth were, in fact, present. Of those people who thought that the teeth were missing a higher proportion of them said that they had not erupted rather than that they had erupted but had been extracted.

Table 4.2 Dental assessment and informants assessment of the presence or absence of the wisdom teeth of young dentate adults

Informants assessment	Upper left 'eight'		Upper right 'eight'		Lower left 'eight'		Lower right 'eight'	
	Dentist assessment		Dentist assessment		Dentist assessment		Dentist assessment	
	Present	Not present	Present	Not present	Present	Not present	Present	Not present
	Dentate adults aged 16 – 34 who attend for a regular check-up							
	%	%	%	%	%	%	%	%
Present	68	27	67	29	75	26	73	26
Extracted	3	20	3	20	3	19	3	17
Not erupted	21	42	21	43	17	44	18	47
DK	8	11	9	8	5	11	6	10
Total	100	100	100	100	100	100	100	100
Base	*308*	*343*	*296*	*357*	*285*	*367*	*279*	*372*
	Dentate adults aged 16 – 34 who attend only when having trouble							
	%	%	%	%	%	%	%	%
Present	58	39	58	38	66	40	70	38
Extracted	6	14	4	16	6	17	5	15
Not erupted	25	35	27	33	19	30	18	32
DK	11	12	11	13	9	13	7	15
Total	100	100	100	100	100	100	100	100
Base	*228*	*241*	*223*	*242*	*221*	*248*	*221*	*250*
	Dentate adults aged 16 – 34							
	%	%	%	%	%	%	%	%
Present	64	33	63	32	70	31	72	31
Extracted	4	17	3	18	5	18	4	16
Not erupted	22	38	23	39	17	38	17	40
DK	10	12	11	11	8	13	7	13
Total	100	100	100	100	100	100	100	100
Base	*648*	*712*	*632*	*724*	*617*	*742*	*596*	*764*

Table 4.3 Dentate adults aged 16 – 34 whose 'eights' were not present

	Upper left 'eight'	Upper right 'eight'	Lower left 'eight'	Lower right 'eight'	No 'eights' present	Base
	Dentate adults aged 16 – 34 who attend for a regular check-up					
UK	52%	55%	55%	56%	31%	*652*
England	53%	54%	55%	56%	30%	*553*
Wales	53%	53%	58%	54%	30%	*71*
Scotland	56%	62%	57%	57%	37%	*165*
	Dentate adults aged 16 – 34 who attend only when having trouble					
UK	51%	50%	51%	51%	29%	*480*
England	50%	50%	53%	50%	30%	*389*
Wales	50%	41%	52%	58%	24%	*62*
Scotland	51%	55%	53%	57%	28%	*181*
	Dentate adults aged 16 – 34					
UK	52%	53%	54%	56%	30%	*1371*
England	51%	52%	54%	55%	30%	*1139*
Wales	53%	48%	56%	59%	28%	*165*
Scotland	54%	60%	55%	57%	31%	*423*

Table 4.2 also shows these same results for both the young regular attenders and those who attend only when having trouble with their teeth. It can be seen that, in the case of teeth which the dentist recorded as present and particularly with regard to upper jaw 'eights', a higher proportion of regular attenders thought that these teeth were present compared with those who attend only when having trouble with their teeth. Of those wisdom teeth which the dentist recorded as not present, a high proportion of adults who attend only when having trouble with their teeth thought that these teeth were, in fact, present, compared with the regular younger attenders.

Finally in this section we look at the proportions of the wisdom teeth that were recorded as not present by the dentist, for the United Kingdom as a whole, England, Wales and Scotland (Table 4.3). It can be seen that, for each of the four wisdom tooth positions, about one half of the young dentate were recorded as not having that tooth present. There was very little variation in these figures between countries or between people with different dental attendance patterns.

In the UK, 30% of young dentate adults were recorded as having none of their wisdom teeth present and again there was very little difference between the countries in this proportion. However in Wales and Scotland a slightly higher proportion of regular attenders than those who attend only when having trouble with their teeth were recorded as having none of the four wisdom teeth present.

Reference

[1] Todd *Children's dental health in England and Wales 1973* HMSO 1975

5 Adult dental health in Scotland 1972 – 1978

5.1 Introduction

After the publication of the 1968 report on adult dental health in England and Wales[1], the Scottish Home and Health Department commissioned a survey in Scotland to provide similar information for that country. This survey[2], which was carried out in 1972, showed that Scotland was in a worse position with regard to dental health than was the case for England and Wales as a whole. In Volume 1 of this report[3], a detailed comparison was made between dental health in England and Wales in 1978 and the position in 1968. In this chapter a comparison is made between the position in Scotland in 1978 and the results from the 1972 study. This comparison is, however, less detailed than that employed in the England and Wales report for, though the sample in Scotland in 1978 was enhanced in order that separate information could be presented about that country, the sample size was not large enough to permit very complex analyses. The fact that the 1978 survey took place only six years after the initial Scottish survey also has consequences for the comparison. Firstly, there was a shorter time period for change to manifest itself than was the case for the England and Wales comparison. Secondly, when results were presented in ten-year age groups for the England and Wales comparison, it was known that all those people who had comprised one age group in 1968 had moved on to an older age group by 1978. Though we continue, in this chapter, to use this ten year age grouping it must be remembered that there will be an amount of overlap in these groupings between the results for the two data sets for Scotland.

The presentation of Scottish results has not been confined to this chapter alone, a considerable amount of information about dental health in Scotland in 1978 is presented throughout this report, wherever regional data are shown. In this chapter comparisons are made of change for three broad areas—the edentulous, the condition of the natural teeth and attitudes towards dental care.

5.2 Total tooth loss in Scotland 1972 – 1978

In 1972, 44% of adults in Scotland had no natural teeth and in 1978 this proportion was significantly lower at 39%. As noted earlier, the proportion edentulous in a community is affected by the age structure of that community so that if the age structure in Scotland had changed over the six year period, the lower proportion measured in 1978 might not represent a real reduction in total tooth loss. However, if we look at adults in ten-year age groups who had no natural teeth in 1972 and

Table 5.1 Total tooth loss in Scotland in 1972 and 1978 by age and sex

Age	Proportion of people with no natural teeth					
	Male		Female		Both sexes	
	1972	1978	1972	1978	1972	1978
16 – 24	2% *203*	3% *112*	3% *213*	2% *132*	2% *417*	2% *244*
25 – 34	12% *183*	7% *124*	15% *192*	12% *148*	13% *374*	10% *272*
35 – 44	26% *180*	24% *115*	43% *225*	30% *121*	35% *405*	27% *236*
45 – 54	52% *204*	51% *115*	57% *190*	57% *113*	54% *394*	54% *228*
55 – 64	74% *158*	61% *109*	81% *181*	68% *104*	78% *339*	64% *213*
65 and over	85% *141*	79% *87*	88% *220*	89% *140*	87% *360*	85% *227*
All ages	39%* *1070*	35% *662*	48% *1220*	42% *758*	44% *2290*	39% *1420*

* Includes two for whom age was unknown.

Table 5.2 Total tooth loss in Scotland in 1972 and 1978 by household social class

Household social class		Proportion of people with no natural teeth			
		1972		1978	
Professional	I	10% *85*	33%	12% *99*	32%
Intermediate	II	35% *316*		36% *292*	
Skilled non-manual	IIIN	40% *214*		39% *111*	
Skilled manual	IIIM	41% *869*		38% *489*	
Semi-skilled non-manual	IVN	52% *96*	53%	54% *52*	45%
Semi-skilled manual	IVM	52% *319*		44% *195*	
Unskilled	V	55% *187*		43% *74*	
Housewife		62% *161*		64% *63*	
Others*		38% *44*		41% *32*	
All social classes		44% *2290*		39% *1420*	

* Students, unemployed and unclassifiable categories.

1978 (Table 5.1) it can be seen that there was a significant reduction in the proportion edentulous among those aged 35 to 44 and those aged 55 to 64. In general there was no statistically significant difference between the proportion of men with no natural teeth in 1972 and 1978, whereas the proportion of edentulous women reduced from 48% in 1972 to 42% in 1978. Among the women in Scotland there had been a substantial decrease in the proportion edentulous between 1972 and 1978 in the two age groups—35 to 44 and 55 to 64.

In 1972, it was shown that those in the top social classes were in the most favourable position with regard to total tooth loss and this was still true in 1978. However, among the top social class group and among the skilled manual group there was no reduction in the proportion edentulous between 1972 and 1978 while there had been a significant decrease in this proportion among the semi-skilled and unskilled classes from 53% in 1972 to 45% in 1978 (Table 5.2).

5.3 The condition of the natural teeth

It has been shown that between 1972 and 1978, the proportion of adults in Scotland with no natural teeth decreased from 44% to 39%. If this change was confined solely to total tooth loss and did not reflect a general increase in dental health then the increase in the proportion of people with some natural teeth might have the effect of worsening the average condition of the natural teeth.

Table 5.3 The mean number of sound, decayed and treated teeth among dentate adults in Scotland in 1972 and 1978

Tooth conditions	1972		1978	
Sound and untreated	12.3		11.3	
Filled (otherwise sound)	6.5		8.2	
Filled and decayed	0.6	2.4	0.7	2.1
Decayed, not previously treated	1.4		1.0	
Unrestorable	0.4		0.4	
Missing	10.8		10.4	
Total	32.0		32.0	
Base	*1170*		*748*	

We begin, then, by looking, in Table 5.3 at the mean number of teeth that were found by the dental examination, to be sound and untreated, filled (otherwise sound), filled and decayed, decayed (not previously treated), unrestorable and missing in 1972 and 1978. To preserve comparison with the 1972 survey, the 1978 data in this chapter shows crowns and bridges grouped with teeth that were filled (otherwise sound) rather than in the groupings used in Chapter 3.

In 1978, dentate adults had, on average, one less tooth that was classified sound and untreated and 1.7 more teeth that were filled (otherwise sound).

As we have seen before it is often more informative to examine the extremes of the distributions of the actual number of teeth in each condition, as any changes that are occurring in the pattern of dental health are likely to be detected here more readily than in the averages. We have confined our comparison to the main statistics presented in the 1972 report for all dentate adults, and for adults with different dental attendance patterns (Table 5.4).

In both 1972 and 1978, 18% of all dentate adults had 18 or more missing teeth and in both years a higher proportion of adults who went to the dentist only when having trouble with their teeth had large numbers of missing teeth compared with the regular attenders, but no statistically significant improvement in this proportion was found in any of the dental attendance pattern groups.

Improvement could be seen, however, in the proportion of adults with no decayed teeth. In 1972, one third of adults had been classified as having no decay while in 1978, this proportion had risen to 39%. This improvement was apparent in each of the dental attendance pattern groups, although because of the small base numbers, these differences were not statistically significant in the individual sub-groups.

Between 1972 and 1978, there had been a decrease in the proportion of adults with no teeth which were filled (otherwise sound) and an increase in the proportion with 12 or more teeth which were filled (otherwise sound). The decrease in the proportion of dentate adults with no filled teeth appears to be accounted for solely by a decrease in the proportion among the irregular attenders. (In fact, among the regular attenders there was little scope for a decrease as, in 1972, there had been only 2% of these adults with no filled teeth.) The overall rise in the proportion of adults with 12 or more filled

Table 5.4 The condition of the natural teeth in 1972 and 1978 by dental attendance pattern

Proportion of dentate adults with:	Attendance pattern							
	Regular check-up		Occasional check-up		Only with trouble		All dentate adults	
	1972	1978	1972	1978	1972	1978	1972	1978
18 or more missing teeth	8%	10%	16%	8%	25%	28%	18%	18%
No decayed teeth	53%	56%	39%	41%	19%	22%	33%	39%
No filled* teeth	2%	1%	8%	5%	40%	31%	23%	16%
12 or more filled* teeth	47%	58%	23%	28%	6%	11%	23%	32%
Base	*389*	*296*	*157*	*117*	*623*	*331*	*1170*	*748*

* Otherwise sound.

Table 5.5 Dental attendance patterns for dentate adults in different age groups in Scotland in 1972 and 1978

Attendance pattern	Age											
	16 – 24		25 – 34		35 – 44		45 – 54		55 and over		All ages	
	1972	1978	1972	1978	1972	1978	1972	1978	1972	1978	1972	1978
	%	%	%	%	%	%	%	%	%	%	%	%
Regular check-up	33	40	34	36	36	42	33	34	29	35	33	38
Occasional check-up	17	15	15	17	9	16	10	14	10	7	14	15
Only with trouble	50	45	51	47	55	42	57	52	61	58	53	47
Total	100	100	100	100	100	100	100	100	100	100	100	100
Base	*382*	*239*	*297*	*246*	*234*	*173*	*152*	*105*	*105*	*109*	*1170*	*872*

teeth was, however, apparent among each of the dental attendance pattern groups. Since so few adults escape dental disease, restorative treatment plays an essential role in the preservation of the natural teeth. Thus, this increase in the level of restorative treatment in Scotland between 1972 and 1978 can be seen as a positive indicator for the future dental health of that country.

5.4 Attitudes to dental care

Dental treatment is, of course, the responsibility of the dental profession and, therefore, any changes in dental health must be attributed, to a considerable extent, to the dentist. However, other factors will also have an influence on an individual's dental health, not least an individuals attitude towards dental care and treatment. We have seen both in this report and in previous studies that one of the most important influences over dental health is the frequency that individuals visit the dentist, because, obviously, a dentist can have no influence over the health of those people who do not present themselves for treatment. Thus, an increase in the proportion of people who are regular dental attenders will be a favourable sign for the future.

Table 5.5 shows the proportions of dentate adults who said that they went to the dentist for a regular check-up, an occasional check-up or only when they were having trouble with their teeth. Among dentate adults in Scotland, there had been a significant increase in the proportion who said they went to the dentist for a regular check-up (from 33% in 1972 to 38% in 1978) and a significant decrease in the proportion who said they went to the dentist only when having trouble with their teeth (from 53% in 1972 to 47% in 1978). These changes were apparent in each of the ten year age groups—although the small base numbers have resulted in there being no statistically significant differences between the two surveys in these sub-groups. Nevertheless, the overall results show very encouraging improvements for the dentate in Scotland.

Another factor that may have an affect on an individual's dental health is the attitude that a person has towards extractions and restorative treatment. Obviously, the type of treatment that a person receives at the dental surgery is a matter for the dentist, but in making the decision, a dentist takes into account all the circumstances including an individual's preferences. In both 1972 and 1978, dentate adults were asked whether, if they had an aching tooth, they would prefer it to be extracted or filled. This question was asked separately for a back tooth and a front tooth, and Table 5.6 shows the proportions of adults who said that they would prefer an aching tooth to be extracted, shown separately for men and women, and for adults with different dental attendance patterns.

Table 5.6 Preference for extractions rather than fillings among dentate adults in Scotland in 1972 and 1978

	Proportion of dentate adults who would prefer an aching tooth to be extracted							
	Front tooth				Back tooth			
	1972		1978		1972		1978	
Male	31%	*601*	21%	*429*	50%	*601*	41%	*429*
Female	22%	*569*	15%	*443*	45%	*569*	34%	*443*
Regular attenders	7%	*389*	4%	*328*	18%	*389*	12%	*328*
Occasional attenders	21%	*157*	9%	*128*	38%	*157*	22%	*128*
Only with trouble	41%	*623*	32%	*412*	69%	*623*	62%	*412*
All dentate adults	27%	*1170*	18%	*872*	48%	*1170*	37%	*872*

In the case of an aching front tooth, the proportion of dentate adults who said that they would prefer it to be extracted rather than filled had decreased from 27% in 1972 to 18% in 1978. This encouraging result was true for both men and women, although there was in 1978 still a higher proportion of men than women who preferred extraction for an aching front tooth. The proportion of regular attenders who preferred extraction for an aching front tooth was low in 1972 and there was no significant reduction in this proportion in 1978, while among the irregular dental attenders there had been a considerable decrease in this proportion over the six years.

As in 1972, a higher proportion of dentate adults in 1978 said that they would prefer an aching back tooth to be extracted rather than filled than was the case for an aching front tooth. Nevertheless, there were significant reductions in the proportions preferring extraction for an aching back tooth between 1972 and 1978. In 1972, 48% of dentate adults said that they would prefer an aching back tooth to be extracted compared with 37% in 1978, and this decrease was apparent among both men and women, and in each of the dental attendance pattern groups, even among the regular attenders, where the proportion in 1972 had been comparatively low.

Thus we have seen that dental attitudes have improved considerably in Scotland in the relatively short period of six years, and this must be a hopeful indication for the future.

5.5 **Conclusions**

The decision to include Scotland in the 1978 Survey was made in order that information on the dental health of the whole of the United Kingdom could be brought together for the first time. The implication of this for Scotland was that dental information was being gathered only six years after the original survey of adults in that country and this period is, perhaps, rather a short one over which to measure changes in adult dental health. Nevertheless indications that dental health is improving in that country can be seen from the results presented in this chapter.

Between 1972 and 1978, the proportion of adults in Scotland with no natural teeth decreased from 44% to 39%. This improvement was, however, confined mainly to the women and to adults aged 35 to 44 and 55 to 64. Among dentate adults, there was an increase in the proportion with no teeth that were currently decayed and in need of treatment, and evidence that the prevalence of restorative treatment was higher in 1978 than it had been in 1972.

The most marked improvements were, however, seen in the attitudes of the dentate towards dental care with an encouraging increase in the proportion of adults who attend the dentist for a regular check-up.

The change in attitude towards extractions and restorative treatment is evidence, perhaps, that further improvements will occur among adults in Scotland.

References

[1] Gray, Todd, Slack and Bulman *Adult dental health in England and Wales in 1968* HMSO 1974

[2] Todd and Whitworth *Adult dental health in Scotland 1972* HMSO 1974

[3] Todd and Walker. *Adult dental health Volume I England and Wales 1968–1978* HMSO 1980.

6 People's perception of their dental health

6.1 Introduction

As has been said many times before the condition of an individual's teeth is the combined result of his disease and treatment experience. We shall be looking at treatment experience later in the report while this chapter is concerned with people's knowledge about and attitudes towards dental disease.

The survey examination yielded a large amount of detailed data about the condition of people's teeth and, thereby, the apparent care being taken of them. However, we also have the information collected during the interview to indicate what people, themselves, thought about the condition of their teeth, the care with which they looked after their teeth and their attitudes towards dental care in general.

Although we have chosen to present the survey examination results earlier in the report than the views of the people in the survey, these views were, in fact, obtained in the interview prior to any suggestion that we wished to carry out a dental examination. The answers will not, therefore, have been influenced by the knowledge of, or the experience of, the dental examination.

Table 6.1 Whether informant thought teeth were decayed by number of decayed teeth classified at dental examination

'Do you think that any of your teeth are decayed at the moment?'	Number of teeth classified decayed at examination			
	0	1–5	6 or more	All
	%	%	%	%
Teeth decayed	19	40	74	35
Not	81	60	26	65
Total	100	100	100	100
*Base**	*1123*	*1402*	*250*	*2784*

**People with natural teeth who had a dental examination*

6.2 Dental decay

The examination results showed that, at the time of the survey, 60% of all people had some teeth with active decay or inadequate restorations. Although in many cases only one tooth was involved this figure is still relatively high given the availability of dental treatment. Treatment can only be given, however, if it is sought and one possible reason for so many people being found with teeth in need of treatment is that they do not realise they need any treatment. All informants who had some natural teeth were asked *'Do you think any of your teeth are decayed at the moment'* and Table 6.1 shows that 35% thought they did have some decay.

Among people whom the dental examination found to have 6 or more decayed teeth there was a high recognition of treatment need by the informants, but 60% of people who were classified as having between one and five decayed teeth thought they had no decay.

It is possible that people might realise that they have something wrong with their teeth without thinking of it as decay so we also asked whether or not a person had had toothache in the previous four weeks, whether they had lost any fillings or pieces of teeth in the last four weeks and whether they avoided using any of their teeth.

It would seem that the fact that someone avoids using some of their teeth is a better indicator of decay than toothache, for though 29% of people with 6 or more decayed teeth had said that they avoided using some of their teeth, only 13% of them said that they had had toothache in the previous four weeks (Table 6.2).

Table 6.2 Informants' assessment of their own dental health—by the number of teeth classified decayed at the dental examination

Proportion who had	Number of teeth classified decayed at examination			
	0	1–5	6 or more	All people
Had toothache	8%	10%	13%	9%
Lost filling/chipped tooth	5%	10%	17%	8%
Avoided using some teeth	15%	19%	29%	18%
Base	*1123*	*1402*	*250*	*2784*

Table 6.3 Individuals' assessment of treatment need—by the number of teeth classified decayed at the survey examination

Individuals assessment of treatment need:	Number of teeth classified decayed at examination			
	0	1–5	6 or more	All people
Fillings	27%	42%	47%	37%
Extractions	3%	16%	46%	14%
Scale and polish	9%	10%	8%	9%
Denture work	2%	2%	5%	2%
Other treatment	5%	8%	9%	7%
No treatment	60%	36%	16%	44%
Base	*1123*	*1402*	*250*	*2784*

Although people may not realise that they have decay, they may think that they need dental treatment. We asked *'If you were to go to the dentist tomorrow do you think you would need any treatment, or not?'* and if a person said they would need treatment they were asked what type of treatment they thought they would need.

Table 6.3 shows the individuals assessment of treatment need compared with the actual need as identified by the survey dental examination. Of those people who were classified by the examination as having between one and five decayed teeth, only 42% thought they would need a filling and 16% an extraction which emphasises the results seen above that a large proportion of people were unaware that they had any teeth that were in need of treatment.

Table 6.4 Informants' assessment of their treatment need and dental decay

Informants assessment of treatment need	Informant thought:	
	Teeth decayed	No teeth decayed
	%	%
Needs treatment	94	36
Does not	6	64
Total	100	100
Base	*1172*	*2082*

A large proportion (46%) of those people who were classified as having six or more decayed teeth, thought that they would need to have some teeth extracted and, in fact, only 16% of this group thought that no treatment would be needed. We have seen how an individual's identification of treatment need compared with the examination results but it is also of interest to see if people are consistent with their own diagnosis of decay (Table 6.4). Nearly all people who thought they had some decay said that they would need treatment if they went to the dentist 'tomorrow'. However, one in three people who did not think they had any decay also thought they would need some kind of treatment. Although some of these people might have required treatment for conditions other than decayed teeth it is interesting to note that two thirds of them said they thought they would need some teeth filled. Of course, it is likely that peoples' opinions on whether or not they would need treatment if they went to the dentist are influenced not only by how healthy they think their teeth are but also how long ago they went to the dentist and their previous pattern of treatment (Table 6.5).

Over half of the people who had been to the dentist in the year prior to the survey thought that they would not need any dental treatment compared with less than a quarter of people whose most recent visit was more than a year ago. The proportion of people who thought they would need some fillings was highest among the group who said their most recent visit had been between one and five years prior to the survey while the proportion who thought they would need extractions increased with the length of time since the last visit from 6% of those who had been within the last year to 45% of those who had not visited the dentist for at least five years. It is not possible, however, to tell from the data which is the dependent variable. That is, whether people who have not been to the dentist for a long time are more likely to think they need some extractions or whether people who think they need extractions tend to put off going to the dentist. We will be looking in more detail at dental visits in a later chapter.

6.3 Cleaning natural teeth

Apart from visiting the dentist one major aspect of tooth care over which individuals themselves have control is cleaning teeth. It is not possible from an interview to ascertain how efficiently people manage to clean their

Table 6.5 Informants' assessment of treatment need by length of time since last visit to dentist

Informants assessment of treatment need	Most recent visit to dentist			
	In last year	More than 1 up to 5 years ago	More than 5 years ago	All dentate
Fillings	32%	49%	30%	36%
Extractions	6%	25%	45%	15%
Scale & polish	8%	13%	11%	9%
Denture work	2%	3%	6%	2%
Other	7%	7%	7%	7%
No treatment	54%	23%	23%	43%
Base	*2100*	*783*	*374*	*3262**

*In 5 cases the date of the most recent visit was not known.

Table 6.6 Frequency of cleaning teeth in different regions and countries

'How often do you clean your teeth nowadays?'	Region							Country			
	Northern		Midlands		Southern			England	Wales	Scotland	UK
	North West	North & N East	West Mids	East Mids	South West	North Thames	South Thames				
	%	%	%	%	%	%	%	%	%	%	%
More than twice a day	14	16	12	15	15	15	12	14	13	15	14
Twice a day	48	46	47	46	51	55	58	50	44	44	50
Once a day	26	28	31	29	27	25	23	27	29	28	27
Other	10	8	8	7	6	4	5	7	11	11	7
Never	2	2	2	3	1	1	2	2	3	2	2
Total	100	100	100	100	100	100	100	100	100	100	100
Base	*365*	*371*	*302*	*364*	*496*	*450*	*413*	*2761*	*363*	*872*	*3262*

teeth although we do have some measure of this from the examination data. Thus the survey data on frequency of cleaning teeth should perhaps, be taken more as an indicator of the level of motivation towards dental care, than an indicator of the cleanliness of the teeth. During the interview we asked all informants with some natural teeth *'How often do you clean your teeth nowadays?'*.

Among people with some natural teeth 64% said they cleaned their teeth twice or more a day and 2% said they never cleaned them. The 'other' category mainly comprised people who said they cleaned their teeth less than once a day. Slightly more people in England than in Scotland or Wales said they cleaned their teeth twice or more a day and this was also the case for people in the south of England compared with those in the northern regions. In each of the regions and countries, however the largest group was of those people who said they cleaned their teeth twice a day (Table 6.6).

Table 6.7 shows how the reported frequency of cleaning teeth varied with dental attendance pattern and sex.

As one would expect the people who showed a good attitude towards dental care in their attendance pattern also showed it in their frequency of cleaning teeth. Among regular dental attenders 78% said they cleaned their teeth twice or more a day compared with 49% of people who only went to the dentist when they had trouble with their teeth. A greater proportion of women than of men in both dental attendance patterns said they cleaned their teeth twice or more a day. In fact the difference was such that the women who only went to the dentist when they had trouble with their teeth showed a similar frequency of cleaning teeth to the men who were regular dental attenders.

From the interview question '*When you were a child how much encouragement were you given to clean your teeth?*' we found that 38% of people said they had been given a great deal of encouragement while 9% said they had been given no encouragment at all.

Table 6.8 shows that of those people who said that as a child they had been given a great deal of encouragement to clean their teeth, 72% cleaned their teeth twice or more a day compared with 43% of those who said they received no encouragement. It must be borne in mind, of course, that people's memories play a large part in this question and that perhaps those who display good dental attitudes are more likely to remember the encouragement they received as children to develop those attitudes.

A more recent influence on dental behaviour can come from the dentist. We asked the informants if a dentist or any of his staff had ever demonstrated the best way to clean teeth, and 28% said that they had been given a demonstration. There was very little variation with age apart from the people aged 55 or more among whom only 21% said they had been given a demonstration of tooth brushing. There was more variation with respect to region, with 38% of people in the North Thames regions and 37% of those in the South Thames regions saying that they had been given a demonstration compared to 23% in the northern regions, 22% in Wales and 24% in Scotland. The largest variation, however, was found with respect to dental attendance pattern (Table 6.9).

Among people who attended the dentist for a regular check-up 38% had been given a demonstration by the dentist or one of his staff compared with only 16% of those who only went when they had trouble with their teeth.

Table 6.7 Frequency of cleaning teeth among people of different dental attendance patterns and the two sexes

'How often do you clean your teeth nowadays?'	Regular check-up			Only with trouble		
	Male	Female	Both sexes	Male	Female	Both sexes
	%	%	%	%	%	%
More than twice a day	14	24	20	7	12	9
Twice a day	51	62	58	32	50	40
Once a day	30	13	20	37	31	34
Other	5	1	2	19	5	13
Never	—	—	—	5	2	4
Total	100	100	100	100	100	100
Base	*583*	*821*	*1404*	*812*	*580*	*1392*

Table 6.8 Frequency of cleaning teeth according to amount of encouragement given as a child

'How often do you clean your teeth nowadays?'	Amount of encouragement given			
	A great deal	A fair amount	Not much	None
	%	%	%	%
More than twice a day	17	14	14	8
Twice a day	55	49	47	35
Once a day	22	29	28	37
Other	4	7	10	13
Never	2	1	1	7
Total	100	100	100	100
Base	*1245*	*1111*	*601*	*283*

Table 6.9 Whether informant had been given a demonstration of tooth brushing for people of different dental attendance patterns

Whether been given demonstration	Attendance pattern			All
	Regular check-up	Occasional check-up	Only with trouble	
	%	%	%	%
Had demonstration	38	29	16	28
Not	62	71	84	72
Total	100	100	100	100
Base	*1404*	*444*	*1392*	*3262*

Once account had been taken of this large variation with attendance pattern there was no variation at all with respect to sex.

Though as mentioned earlier, we do not know how efficiently people brush their teeth we are able, for those dentate adults who were examined by the survey dentists, to see whether or not there was any debris in a persons' mouth, which gives an indication of how 'clean' their teeth were.

Table 6.10 shows that a smaller proportion of people who cleaned their teeth more than twice a day had any debris compared with those who cleaned their teeth less often. As debris is the forerunner of other, more harmful, oral conditions, it appears that an individuals tooth brushing habits may have an important impact on his dental health.

In recent years there has been great emphasis placed on the importance of cleaning teeth through the advertising media and this has concentrated not only on toothbrushing but also on other ways of keeping teeth clean, such as the use of dental floss. We asked all people with some natural teeth *'Do you ever use anything else to clean your teeth such as dental floss or woodsticks?'*.

Table 6.10 Proportion of dentate adults with debris by frequency of tooth brushing

	Frequency of tooth brushing			
	More than twice a day	Twice a day	Once a day	Other
Proportion with debris	56%	64%	66%	82%
Base	*403*	*1374*	*756*	*206*

The use of anything apart from toothpaste to clean teeth was not wide spread in the United Kingdom and less common in Wales than in either England or Scotland, and most common in the southern regions of England (Table 6.11).

As might be expected the use of such products as floss and woodsticks was higher among those adults who attend for a regular check-up than among those who attend only when having trouble with their teeth (Table 6.12).

For those adults who had been dentally examined we were able to see whether there was any association between the presence of debris and these other methods of cleaning teeth (Table 6.13).

It would appear from the table that there is some association between the use of dental floss and the removal of debris, although this may have no causal relationship but may be due to other variables that are confounded in the data (for example, very high dental care motivation generally, for which the use of floss is just one example from a whole pattern of care predisposing the individual to better dental health).

It was seen that 28% of dentate adults said that the dentist or one of his staff had demonstrated the best way to clean teeth. As a major aspect of dental health is concerned with the state of the gums, we also asked each

Table 6.11 The use of anything other than toothpaste to clean teeth by region and country

Uses	Region							Country			
	Northern		Midlands		Southern			England	Wales	Scotland	UK
	North West	North & N East	West Mids	East Mids	South West	North Thames	South Thames				
Floss	4%	5%	2%	6%	10%	14%	14%	8%	6%	7%	8%
Woodsticks	6%	7%	7%	5%	11%	16%	14%	10%	6%	8%	9%
Just toothpaste/powder	83%	85%	84%	84%	76%	66%	70%	78%	85%	81%	78%
*Base**	*358*	*363*	*297*	*355*	*493*	*447*	*404*	*2717*	*353*	*784*	*3205*

**Excludes those who never clean their teeth*

Table 6.12 The use of anything other than toothpaste to clean teeth by attendance pattern

Uses	Attendance pattern		
	Regular check-up	Occasional check-up	Only with trouble
Floss	13%	8%	3%
Woodsticks	14%	9%	4%
Just toothpaste/powder	70%	80%	87%
*Base**	*1401*	*443*	*1341*

**Excludes those who never clean their teeth*

Table 6.13 Proportion of dentate adults with debris, by the use of different methods of cleaning teeth

	Uses		
	Floss	Woodsticks	Just toothpaste/ powder
Proportion with debris	51%	61%	66%
Base	*218*	*248*	*1993*

of the dentate adults whether they had ever been given any advice on the care of their gums.

Only 22% of all dentate adults said they had been given advice by a dentist or member of his staff about the care of gums and as with the case of tooth brushing advice, a higher proportion of the regular attenders than those who go only when having trouble received this advice (Table 6.14).

Table 6.14 Advice on gum care by attendance pattern

'Has a dentist or any of his staff ever given you any advice on caring for your gums?'	Attendance pattern			
	Regular check-up	Occasional check-up	Only with trouble	All dentate adults
	%	%	%	%
Given advice	33	25	11	22
Not	67	75	89	78
Total	100	100	100	100
Base	*1404*	*444*	*1392*	*3262*

6.4 Keeping teeth healthy

Lastly in this chapter we look at what people thought was important in the general care of teeth. All people, both dentate and those who had lost all their natural teeth, were asked how important they thought certain factors were in keeping teeth healthy. These factors were not eating sweets; regular visits to the dentist; cleaning teeth regularly and having fluoride in the water. Table 6.15 shows the proportion of people who thought that each of these factors was either very important or fairly important.

Overall, the factor which the highest proportion of all adults thought was important for keeping teeth healthy was regular teeth cleaning (98%) though high proportions thought that regular visits to the dentist and not eating sweets were important (91% and 80% respectively). Though a much lower proportion of adults thought that having fluoride in the water was important, 31% of adults said that they did not know whether or not fluoride was important for keeping teeth healthy.

There was little variation between England, Scotland and Wales in the proportion who thought each of the factors were important except for a significantly lower proportion of adults in Scotland who thought that having fluoride in the water was important.

Regionally, in England, there was again little variation shown in the proportions of adults who thought each of the factors important except in the case of fluorided water where a higher proportion in the south of the country than in the north thought that this was important in keeping teeth healthy.

A higher proportion of women than of men thought each of the factors mentioned were important in keeping teeth healthy though this will obviously have been influenced by the variation found between attendance patterns, as a higher proportion of dentate adults who attend for a regular check-up thought that each of the factors were more important than was the case among those who attend only when having trouble with their teeth. It is perhaps surprising to see that 84% of dentate adults who visit the dentist only when having trouble with their teeth thought that regular visits to the dentist were important for keeping teeth healthy.

Table 6.15 Factors for keeping teeth healthy

Proportion who thought that each factor was either very or fairly important for keeping teeth healthy	Factors for keeping teeth healthy							
	Not eating sweets		Regular visits to the dentist		Cleaning teeth regularly		Having fluoride in water	
UK	80%	*4639*	91%	*4639*	98%	*4639*	43%	*4639*
England	79%	*3833*	91%	*3833*	98%	*3833*	44%	*3833*
Wales	81%	*580*	92%	*580*	98%	*580*	43%	*580*
Scotland	81%	*1420*	92%	*1420*	98%	*1420*	36%	*1420*
North West	79%	*534*	92%	*534*	99%	*534*	42%	*534*
North and North East	79%	*571*	91%	*571*	98%	*571*	41%	*571*
West Midlands	81%	*431*	90%	*431*	97%	*431*	41%	*431*
East Midlands	80%	*534*	91%	*534*	99%	*534*	45%	*534*
South West	78%	*681*	89%	*681*	98%	*681*	40%	*681*
North Thames	80%	*547*	88%	*547*	99%	*547*	51%	*547*
South Thames	81%	*535*	91%	*535*	97%	*535*	48%	*535*
Male	77%	*2176*	88%	*2176*	97%	*2176*	42%	*2176*
Female	83%	*2463*	93%	*2463*	99%	*2463*	45%	*2463*
16–24	79%	*729*	93%	*729*	98%	*729*	54%	*729*
25–34	84%	*860*	92%	*860*	98%	*860*	48%	*860*
35–44	84%	*785*	92%	*785*	98%	*785*	49%	*785*
45–54	82%	*728*	93%	*728*	98%	*728*	47%	*728*
55 and over	75%	*1532*	88%	*1532*	98%	*1532*	31%	*1532*
Dentate	81%	*3262*	92%	*3262*	97%	*3262*	49%	*3262*
Edentulous	77%	*1377*	90%	*1377*	98%	*1377*	31%	*1377*
Regular check-up*	83%	*1404*	99%	*1404*	99%	*1404*	54%	*1404*
Only with trouble*	79%	*1392*	84%	*1392*	96%	*1392*	44%	*1392*
Cleans teeth								
Once or more a day*	81%	*2969*	93%	*2969*	99%	*2969*	50%	*2969*
Less than once a day or never*	74%	*293*	79%	*293*	82%	*293*	38%	*293*

* *Dentate only*

There was no variation between different age groups in the proportion of adults who thought that cleaning teeth regularly was important to keep teeth healthy and very little variation over age in the proportion who thought regular visits to the dentist important although a slightly lower proportion of those aged 55 and over thought that this latter factor was important for keeping teeth healthy.

A slightly lower proportion of both the youngest and the oldest adults thought that not eating sweets was important in keeping teeth healthy but a higher proportion of the youngest adults thought that having fluoride in the water was important for keeping teeth healthy.

Except for a significantly larger proportion of the dentate than the edentulous who thought that fluoride in the water was important for keeping teeth healthy, there was in fact very little difference between the views of these two groups.

It is interesting to see that, although regular cleaning, was seen as important by a very high proportion of adults, a lower proportion of those who cleaned their teeth less than once a day thought that this factor was important, compared with those who cleaned their teeth once or more a day. Even so, of those people who cleaned their teeth infrequently, 82% thought that regular cleaning was important for keeping teeth healthy.

Thus, although the high proportions of adults who thought that each of the factors mentioned were important for keeping teeth healthy, it must be remembered that a persons views and actions are often very different.

7 Orthodontics

7.1 Introduction

Orthodontic treatment is often associated only with the young dental attenders, but, in some cases, it can be used effectively to correct dental anomalies in the older patient. In this chapter, we look at people's attitudes towards and experiences of orthodontic treatment and also their attitudes towards the appearance of their own teeth, making use of the orthodontic assessments recorded for the survey dental examination.

7.2 The importance of orthodontic treatment

A major aspect of orthodontic treatment is the straightening of crooked or protruding teeth. In the 1973 Children's Dental Health Survey[1], 16% of fifteen year olds said that they had had to wear a brace at sometime and 21% had had teeth extracted for orthodontic reasons. It was, however, estimated that 27% of the fifteen year olds were in need of some orthodontic treatment and thus a comparatively large proportion of people were entering adult life with an orthodontic need.

It may be that treatment could be undergone in adult life to correct dental irregularities, but traditionally, orthodontic treatment is a childhood experience. Dentate adults were asked how important they thought it was for children who had crooked or protruding teeth to have them straightened.

In the United Kingdom, 74% of dentate adults said that, for children, the straightening of crooked or protruding teeth was very important while only 1% said that it was not at all important (Table 7.1).

There was an interesting variation between age groups. A smaller proportion of the youngest age group, who were closest in years to the group in question, thought that it was very important for children who had crooked or protruding teeth to have them straightened, compared with the older adults where there was a very high proportion who thought that this was very important.

A similar question was asked about the importance for adults of having crooked or protruding teeth straightened and, as can be seen from Table 7.2, a lesser importance was placed on this than in the case of children, although the proportion who thought that it was very important was still comparatively large (45%). Table 7.2 also shows that, comparing the views of the two sexes, a higher proportion of women thought that it was very important for adults with crooked or protruding teeth to have them straightened.

Table 7.1 Importance for children of having teeth straightened for dentate adults in different age groups

'How important do you think it is that children with crooked or protruding teeth should have them straightened? Do you think it is...'	Age					
	16–24	25–34	35–44	45–54	55 and over	All ages
	%	%	%	%	%	%
Very important	67	74	73	79	80	74
Fairly important	26	21	22	17	17	21
Not very important	6	4	4	3	3	4
Not at all important	1	1	1	1	—	1
Total	100	100	100	100	100	100
Base	*726*	*825*	*684*	*499*	*524*	*3262*

Table 7.2 Importance for dentate adults of having teeth straightened shown separately for dentate men and women

'How important do you think it is that adults with crooked or protruding teeth should have them straightened? Do you think it is...'	Sex		
	Male	Female	Both sexes
	%	%	%
Very important	36	52	45
Fairly important	35	32	33
Not very important	25	13	19
Not at all important	4	3	3
Total	100	100	100
Base	*1624*	*1639*	*3262*

As it appeared that, in general, more importance was placed on the straightening of children's teeth than adults' teeth, all people who had rated the importance of teeth straightening higher for children than for adults were asked *'Why do you think it is less important for adults to have their teeth straightened?'* (Table 7.3)

The reason mentioned by the highest proportion of people, was the view that it is impossible to straighten adults teeth. The fact that adults are more used to their appearance was mentioned, as a reason, by 27% of the relevant adults, and a higher proportion of older adults gave this as a reason than younger adults. Conversely, a higher proportion of younger than older adults gave the reasons associated with the fact that children are more conscious of their appearance and it is likely that these younger adults were remembering childhood experiences when they answered this question.

Only a small proportion of people (4%) spontaneously mentioned that adults would not want the bother of orthodontic treatment. However as a substantial proportion did not think that orthodontic treatment was possible for adults, they probably did not consider the issue of whether adults would be prepared to undergo such treatment. It would be interesting to know how many adults would be prepared to undergo treatment if they knew it to be available.

Only 1% of dentate adults said that it was less important for children to have crooked or protruding teeth straightened than it was for adults. The reasons that they gave for their answer were mainly associated with the fact that adults were more concerned about their appearance than children were and, also, that individuals should be allowed to make up their own mind about whether or not to have their teeth straightened and that children are not in a position to do this.

7.3 Orthodontic treatment as a child

As it appears that a higher importance was placed on children rather than adults having crooked teeth straightened, we look in this section at people's experiences of orthodontic treatment when they were children. In fact, only 14% of dentate adults had had orthodontic treatment as a child although it appears that this type of treatment is becoming more common as 24% of dentate adults aged 16 to 24 had received orthodontic treatment compared with just 6% of those aged 55 and over (Table 7.4).

There was little variation in the proportion of adults who had had orthodontic treatment as a child between England, Wales and Scotland but, within England, a higher proportion in the south of the country had received this treatment compared with the north, although it must be remembered, that the region that people were in at the time of the survey was not necessarily that in which they resided as a child. The same care must be taken when interpreting results by current social class, though there is a striking difference between the orthodontic experiences of those in the top social class group compared with the other groups.

It is not unexpected to see that it was those adults who went to the dentist for a regular check-up as a child, who were more likely to have experienced orthodontic treatment than those who only went to the dentist when they had trouble with their teeth.

There are various types of orthodontic treatment, the major ones being orthodontic extractions, orthodontic

Table 7.3 Informants views on why it is less important for adults to have teeth straightened

'Why do you think it is less important for adults to have their teeth straightened?'	Age 16–24	25–34	35–44	45–54	55 and over	All ages
Impossible to straighten adults teeth	32%	31%	28%	39%	37%	33%
Children more conscious of appearance	31%	29%	31%	18%	18%	26%
Adults are used to their appearance	25%	27%	24%	29%	31%	27%
Should have it done as early as possible	11%	14%	14%	14%	14%	13%
Adults don't want the bother	2%	6%	3%	2%	4%	4%
Base	*268*	*347*	*277*	*216*	*215*	*1324*

Table 7.4 Orthondontic treatment as a child for dentate adults (proportion who had orthodontic treatment)

Age 16–24	25–34	35–44	45–54	55 and over	All ages
24% *726*	19% *825*	7% *684*	5% *499*	6% *524*	14% *3262*

Region: Northern		Midlands		Southern			Country		
North West	North and North East	West Midlands	East Midlands	South West	North Thames	South Thames	England	Wales	Scotland
10% *365*	10% *371*	9% *302*	11% *364*	17% *496*	20% *450*	17% *413*	14% *2761*	13% *363*	12% *872*

Social Class			Sex		Attendance pattern as a child*		
I, II, IIIN	IIIM	IV, V	Male	Female	Regular check-up	Occasional check-up	Only with trouble
19% *1300*	10% *1108*	8% *605*	11% *1624*	16% *1639*	31% *940*	12% *295*	7% *627*

* *Bases exclude those who did not visit the dentist as a child and those who visited only the school dentist.*

appliance therapy or a combination of both. Each informant who had had orthodontic treatment was asked *'Did you have a brace fitted, teeth taken out, both of these or some other treatment?'* (Table 7.5).

Table 7.5 Type of orthodontic treatment for dentate adults in different age groups, who had received orthodontic treatment

Type of treatment	Age				
	16–24	25–34	35–44	45 and over*	All ages
Brace fitted	19%	34%	27%	29%	27%
Extractions	37%	33%	35%	47%	36%
Both	42%	30%	34%	20%	34%
Other	4%	4%	4%	5%	4%
Base	*174*	*159*	*50*	*58*	*441*

* *The small base numbers necessitate the grouping of all ages over 44.*

A higher proportion of younger adults had had treatment as a child which included both the extraction of teeth and the fitting of a brace, compared with the older adults (42% compared with 20%) while a higher proportion of those aged 45 and over said that they had just had orthodontic extractions or a brace fitted as a child compared with the young adults. It would appear, therefore, that a combination of the two types of treatment has become a more common form of therapy while treatment involving just the fitting of a brace or the extraction of teeth has become less common.

7.4 Individuals satisfaction with the appearance of their teeth

We saw earlier that 78% of dentate adults thought that it was either very important or fairly important for adults with crooked or protruding teeth to have them straightened. It is likely that there were some adults who were not satisfied with the look of their teeth who were not aware that there might be a possible remedy.

It is of interest, to know what people thought about the look of their teeth and whether, if they were not satisfied, they had made any attempt to seek treatment.

Of the dentate adults in the United Kingdom 24% said that they were not satisfied with the appearance of their natural teeth and though there was little variation in this proportion over different age groups, there was a significantly higher proportion of adults in Scotland than in England who were not satisfied with the appearance of their teeth (Table 7.6).

Table 7.6 Satisfaction with the appearance of the natural teeth in England, Wales, Scotland and the UK

'How do you feel about your own teeth. Are you satisfied or not satisfied with the way they look?'	Country			
	England	Wales	Scotland	UK
	%	%	%	%
Satisfied	75	72	70	74
Not satisfied	25	28	30	26
Total	100	100	100	100
Base	*2761*	*363*	*872*	*3262*

All those who said that they were not satisfied with the appearance of their teeth were asked whether they had talked to a dentist on this matter. In fact only 36% of those who said that they were dissatisfied with the appearance of their teeth had ever talked to the dentist about this subject.

Of those who had talked to the dentist about the problem, 46% had been told that the dentist would or could treat them (Table 7.7). Table 7.8 shows, for those people who had not discussed the problem with their dentist, the reasons they gave for not having done so.

Table 7.7 Results of talking to the dentist about the appearance of the teeth

'What did the dentist say?'	Dentate adults who were dissatisfied with their teeth and had talked to the dentist
	%
Dentist will or could treat them	46
Advised against treatment	9
Nothing can be done	19
Dentist did not think there was a problem	15
Other	11
Total	100
Base	*265*

Table 7.8 Reasons for not discussing the dissatisfaction in the appearance of the natural teeth with the dentist

'Is there any reason why you haven't talked to the dentist about the appearance of your teeth?'	Dentate adults who were dissatisfied with their teeth but who had not talked to the dentist
	%
No reason/can't be bothered	32
Never go to the dentist	14
Dentist will not be able to help	14
Fear of dentists	12
Not really worried	10
No opportunity to talk to dentist during visit	8
Other	10
Total	100
Base	*534*

One third of these adults said that there was no real reason why they had not discussed the problem with the dentist or that they could not be bothered to do so, and, in fact, 10% of these people, though they had said they were dissatisfied with the appearance of their teeth, also said that they were not really worried about the problem.

When people were asked why they were not satisfied with the appearance of their teeth, many of the reasons that were given were not conditions that could have been remedied by orthodontic treatment—for example, the colour of their teeth or the fact that their teeth were decayed. However 31% of people who had said that they were not satisfied with their teeth said that this was because they were crooked, protruding or irregular.

7.5 Dental assessment of orthodontic need

In addition to a person's own assessment of the appearance of their teeth, the dental examination provides results concerning the orthodontic condition of those dentate adults who were examined. Later in this chapter we look at the relationship between a person's satisfaction with the appearance of their teeth and the orthodontic assessment made by the dentist. Initially, however, we look solely at the dental assessment of the four orthodontic conditions about which information was collected, beginning with that which was found to be the most common—that is, crowding.

For each segment of the mouth, the dentist recorded whether or not the teeth were crowded and the severity of the crowding, by marking whether the shortage of space in a segment was of more or less than one tooth's width.* Table 7.9 shows the proportion of dentate adults who were examined, who had any segments recorded as crowded at the dental examination.

Table 7.9 The proportion of dentate adults with crowding

	Proportion with some crowding	
United Kingdom	57%	*2784*
England	58%	*2350*
Wales	64%	*327*
Scotland	53%	*748*
North West	55%	*303*
North and North East	49%	*317*
West Midlands	54%	*266*
East Midlands	64%	*324*
South West	61%	*423*
North Thames	60%	*387*
South Thames	59%	*330*
16–24	67%	*646*
25–34	65%	*724*
35–44	55%	*589*
45–54	46%	*419*
55 and over	40%	*403*
Regular check-up	63%	*1270*
Only with trouble	50%	*1113*

Table 7.10 Proportion of dentate adults with crowding by whether they had fewer than six or six or more missing teeth

	Proportion with some crowding			
	Dentate adults with fewer than 6 missing teeth		Dentate adults with 6 or more missing teeth	
United Kingdom	73%	*1083*	47%	*1701*
England	73%	*957*	48%	*1393*
Wales	78%	*112*	56%	*214*
Scotland	74%	*202*	45%	*546*
North West	74%	*88*	47%	*215*
North and North East	62%	*129*	39%	*188*
West Midlands	67%	*93*	48%	*173*
East Midlands	72%	*131*	59%	*193*
South West	77%	*180*	50%	*243*
North Thames	78%	*187*	44%	*200*
South Thames	75%	*149*	46%	*187*
16–24	72%	*444*	58%	*206*
25–34	75%	*378*	55%	*346*
35–44	72%	*184*	47%	*405*
45–54	72%	*55*	43%	*364*
55 and over	69%	*26*	38%	*377*
Regular check-up	75%	*563*	53%	*707*
Only with trouble	72%	*340*	41%	*773*

Although 57% of dentate adults in the United Kingdom had crowding, there was considerable variation in the population. In Wales, 64% of adults had crowding compared with 53% in Scotland, and a higher proportion of adults in the south of England than in the north had this condition. A higher proportion of regular attenders than those who attend only when having trouble had crowding and there was also a decrease in this proportion with age. Of course the condition of crowding is highly affected by the number of teeth present in the mouth. From the survey examination we know how many missing teeth a person had, and Table 7.10 shows that, while 73% of dentate adults in the United Kingdom with fewer than six teeth missing had crowding, this was true for only 47% of those with six or more missing teeth.

For those dentate adults with fewer than six missing teeth, there was little variation between age groups in the proportion with crowding, though there was still a higher proportion with crowding in Wales than in Scotland, and, perhaps surprisingly, a higher proportion among those who attend for a regular check-up, compared with those who attend only when having trouble.

The variations in the proportions of dentate adults with six or more missing teeth who had crowding are likely to be due to the variation in the numbers of teeth that were missing.

An analysis of crowding by the different segments of the mouth showed that the majority was found in the anterior sections and especially in the anterior section of the lower jaw (Table 7.11).

Table 7.11 Proportion of dentate adults with crowding by the separate segments of the mouth

	Segments					
	Upper jaw			Lower jaw		
	Left	Anterior	Right	Left	Anterior	Right
Proportion of dentate adults with crowding	5%	29%	4%	6%	47%	6%
Base = 2784						

As to the severity of the crowding, only 2% of the population were found to have any crowding which involved a shortage of space in a segment of a tooth's width or more.

Another orthodontic condition about which information was recorded at the dental examination was overbite—that is, the amount by which the upper incisors overlap the lower incisors in the vertical dimension. For each adult dentally examined an assessment was made as to whether there was no overlap, an overlap of up to one third of the lower incisor or a larger overlap. In 20% of cases this measurement could not be made because both of the upper or both of the lower central incisors were missing.

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* For a more detailed description of dental assessment of the orthodontic conditions see Appendix B.

One half of the dentate adults for whom this measurement could be taken, had an overlap of up to one third of their lower incisors and only 9% had no overlap at all. The proportions of dentate adults with the more extreme levels of overbite increased with age with 38% of dentate adults aged between 16 and 24 having an overbite of more than two thirds of their lower incisors compared with 46% of those in the oldest age group (Table 7.12).

Table 7.12 Of those dentate adults for whom an assessment could be made, the proportions in different age groups with different degrees of overbite

Overbite	Age					
	16–24	25–34	35–44	45–54	55 and over	All ages
	%	%	%	%	%	%
No overbite	9	10	8	11	9	9
Up to 1/3 overbite	53	51	53	47	45	51
One third or more	38	39	39	42	46	40
Total	100	100	100	100	100	100
*Base**	*624*	*666*	*464*	*279*	*181*	*2215*

**Excludes those for whom no measurement could be made.*

Table 7.13 Of those dentate adults for whom an assessment could be made the proportions in England, Wales and Scotland with different degrees of overbite

Overbite	Country			
	England	Wales	Scotland	UK
	%	%	%	%
No overbite	10	7	7	9
Up to 1/3 overbite	51	44	43	51
One third or more	39	49	50	40
Total	100	100	100	100
*Base**	*1885*	*255*	*564*	*2215*

** Excludes those for whom no measurement could be made.*

A higher proportion of adults in Scotland and Wales had an overbite of more than two thirds than was the case in England, whereas in England there was a higher proportion of adults whose front teeth did not overlap at all than was found in Scotland (Table 7.13).

A further measurement made for the orthodontic assessment was that of overjet, that is the horizontal distance between the upper and lower incisors when the teeth are in natural occlusion.

In Table 7.14 we present the proportions of dentate adults with the more extreme measurements of overjet, that is negative, zero or over 5 mm.

There was very little variation in the proportions of adults with these extreme measurements of overjet and, in fact, there were only two significant differences found. Wales had a higher proportion of adults with negative overjet than either Scotland or England and, between the age groups, there was a lower proportion of adults in the oldest and youngest age groups who had an overjet of more than 5 mm.

Table 7.14 Of those dentate adults for whom an assessment could be made, the proportions with extremes of overjet

	Overjet measurement					
	Negative		Zero		Over 5 mm	
United Kingdom	2%	*2212*	5%	*2212*	7%	*2212*
England	2%	*1881*	4%	*1881*	7%	*1881*
Wales	6%	*256*	2%	*256*	7%	*256*
Scotland	3%	*563*	5%	*563*	6%	*563*
Age						
16–24	2%	*624*	4%	*624*	5%	*624*
25–34	2%	*665*	5%	*665*	8%	*665*
35–44	3%	*462*	4%	*462*	8%	*462*
45–54	2%	*279*	5%	*279*	7%	*279*
55 and over	3%	*183*	6%	*183*	4%	*183*
Attendance pattern						
Regular check-up	2%	*1103*	4%	*1103*	7%	*1103*
Only with trouble	3%	*776*	6%	*776*	7%	*776*

Bases exclude those for whom no measurement could be made.

The final orthodontic measure that was taken at the survey examination was whether or not the lower lip was trapped, that is whether it was at rest behind the upper incisors when the teeth were in occlusion. In fact, only 4% of dentate adults were found to have this condition and there was no real variation in this proportion between either regions, countries, age groups or people of different attendance patterns.

7.6 Orthodontic need and individual satisfaction

The presence of any orthodontic condition as identified by the survey examination may not, in fact, be perceived as a problem by an individual. It is however, interesting to see whether people who were identified by the examination as having an orthodontic anomaly were less likely to be satisfied with the appearance of their teeth than those who were not.

Table 7.15 Personal satisfaction with the appearance of the teeth by crowding found at the survey examination

	Upper anterior segment		Lower anterior segment	
	No crowding	Some crowding	No crowding	Some crowding
Proportion satisfied with appearance of teeth	76%	67%	75%	73%
Base	*1800*	*732*	*1478*	*1289*

In the case of crowding, it is most appropriate to look only at those people who had crowding in the anterior segments of their mouth for overcrowding in the posterior segments is unlikely to affect the appearance of the teeth. We look, then, in Table 7.15 at the proportion of adults who said they were satisfied with the appearance of their teeth by whether or not they had crowding in the anterior segments of their mouth.

A smaller proportion of people who had crowding in their upper anterior segment were satisfied with the appearance of their teeth compared with those who had no crowding, though 67% of adults with crowding were satisfied with the appearance of their teeth. This was also true in the case of crowding in the lower anterior segment, though the difference between the satisfaction levels of those who had crowding and those who did not, was not as large as in the case of the upper anterior segment.

The degree of overbite did not appear to greatly affect a person's satisfaction with the appearance of their teeth (Table 7.16), though there was a slightly lower proportion of adults with no overbite who said that they were satisfied with the look of their teeth compared with adults who had some overlap between their upper and lower incisors.

Table 7.16 **Personal satisfaction with the appearance of the teeth by the degree of overbite found at the survey examination**

	Overbite		
	No overbite	Up to 1/3 overbite	1/3 or more overbite
Proportion satisfied with appearance of teeth	70%	76%	74%
Base	*209*	*1128*	*878*

Table 7.17 **Personal satisfaction with the appearance of the teeth by the degree of overjet found at the survey examination**

	Overjet			
	Negative	Zero	Up to 5 mm	Over 5 mm
Proportion satisfied with appearance of teeth	69%	69%	76%	59%
Base	*56*	*101*	*1902*	*154*

However, in the case of overjet, the more extreme conditions did appear to affect a person's satisfaction with the appearance of their teeth (Table 7.17). Only 59% of people who had an overjet of more than 5 mm said that they were satisfied with the appearance of their teeth compared with 76% of people who had a positive overjet of up to 5 mm.

The condition of having the lip trapped behind the upper incisors when the teeth were in occlusion also appeared to affect a person's satisfaction with the appearance of their teeth, for only 55% of people with this anomaly were satisfied with the look of their teeth, which was considerably lower than the level of satisfaction seen elsewhere in the population.

In addition to seeing how the presence of an orthodontic condition affected a person's satisfaction with the appearance of their teeth, it is also of interest to see whether an orthodontic condition identified by an individual was identified as such by the dentist.

It was seen earlier that 26% of adults were not satisfied with the appearance of their teeth and that, of those people, 31% said that this was because their teeth were crooked, protruding or irregular. We therefore look at the proportion of these people who were identified by the dentist as having an orthodontic condition.

Orthodontic anomalies that are likely to affect a person's satisfaction with the appearance of their teeth are lip trapped, zero overbite, crowding in either of the anterior segments of the mouth, a zero overjet, a negative overjet or overjet of more than 5 mm.

Table 7.18 shows that proportion of dentate adults who had any of these conditions both for adults who were dissatisfied and for adults who were satisfied with the appearance of their teeth. The results for those who were dissatisfied with the appearance of their teeth have been presented separately for those who said they were dissatisfied because their teeth were crooked, protruding or irregular and for those who gave other reasons for their dissatisfaction.

The majority of those people who were dissatisfied with the appearance of their teeth because their teeth were crooked, protruding or irregular were identified by the dentist as having an orthodontic condition although 12% of them were, in fact, free from any of the nominated conditions. There was no difference in the proportions of adults identified as having an orthodontic condition among those who were dissatisfied with the appearance of their teeth for other reasons and among those adults who were satisfied with the appearance of their teeth, and in both cases the proportion identified as having an orthodontic condition was significantly lower than was the case among those whose dissatisfaction was due to crooked, protruding or irregular teeth. However over half of them were identified by the dental examination as having a condition which could adversely affect the appearance of their teeth.

Table 7.18 **Orthodontic anomalies identified by the examination by whether a person was dissatisfied with the appearance of their teeth for an orthodontic reason**

	Adults who were dissatisfied with the appearance of their teeth because		Adults who were satisfied with the appearance of their teeth
	The teeth were crooked, protruding, irregular	Other reasons	
	%	%	%
Orthodontic condition*	88	57	58
No condition	12	43	42
Total	100	100	100
Base	*231*	*481*	*2062*

* *Includes any of the following; lip trapped, crowding in either of the middle segments, zero overbite, negative overjet, zero overjet, overjet of over 5 mm.*

7.7 Conclusions

Orthodontic treatment is normally provided in childhood and it was seen in this chapter that a very high proportion of dentate adults thought that it was important for children to have crooked or protruding teeth straightened. There was also a substantial proportion of people who said that they thought it was important for adults with crooked or protruding teeth to have them straightened. However, the majority of dentate adults were satisfied with the appearance of their teeth. In general, the orthodontic conditions identified by the dental examiners were not perceived as a problem by the individuals concerned, reflecting maybe that by the time adult status is reached, many people will have come to terms with any orthodontic anomalies that they might have.

Reference

[1] Todd *Children's dental health in England and Wales* HMSO 1975

8 The periodontal condition of adults

8.1 Introduction

In any study of the health of the natural dentition, there are two major areas of interest with respect to disease. Firstly the condition of the tooth structures themselves and the effect of decay and secondly, the condition of the tissue supporting the teeth, and the effect of gum disease. The former has already been reported in detail and in this chapter we look at four conditions that affect the soft tissues; debris, calculus, gingivitis and periodontitis.

The major difference between the assessment of gum condition in the 1978 study and in the 1968 Adults Dental Health Survey was that, in the later study the condition of the gums was recorded for the six segments of the mouth, rather than on a tooth-by-tooth basis, and thus the results from the two surveys are not directly comparable.

8.2 Debris

Debris is the name given to the soft deposits which form on and around the teeth if they are not thoroughly cleaned. Table 8.1 shows that 65% of dentate adults who were examined in the survey, had some debris in their mouths, and that there was a higher proportion of dentate adults with debris in Scotland (72%) than in England or Wales (65% and 61% respectively).

Table 8.1 Proportion of dentate adults with some debris

	Proportion with debris	
United Kingdom	65%	*2784*
England	65%	*2350*
Wales	61%	*316*
Scotland	72%	*748*
Age		
16 – 24	64%	*646*
25 – 34	64%	*724*
35 – 44	64%	*589*
45 – 54	66%	*419*
55 and over	70%	*403*
Sex		
Male	69%	*1398*
Female	61%	*1386*
Attendance patterns		
Regular check-up	58%	*1270*
Only with trouble	72%	*1113*

A higher proportion of those people who go to the dentist only when having trouble with their teeth had debris compared with the regular attenders (72% compared with 58%). Debris can be removed by effective cleaning and since we have already seen that the regular attenders had better personal dental habits than the irregular attenders, it is not surprising that the regular attenders were less likely to have debris.

Table 8.2 Proportion of dentate adults with some calculus

	Proportion with calculus	
United Kingdom	72%	*2784*
England	73%	*2350*
Wales	72%	*316*
Scotland	64%	*748*
Age		
16 – 24	54%	*646*
25 – 34	71%	*724*
35 – 44	79%	*589*
45 – 54	83%	*419*
55 and over	83%	*403*
Sex		
Male	75%	*1398*
Female	69%	*1386*
Attendance patterns		
Regular check-up	64%	*1270*
Only with trouble	82%	*1113*

8.3 Calculus*

In addition to debris being deposited on the teeth, calculus can also form on the teeth in association with these soft deposits. Unlike debris, calculus is a hard material and though its formation can be prevented by efficient toothbrushing, once formed it can only be removed professionally. From Table 8.2 it can be seen the calculus was very common among dentate adults, with 72% of dentate adults being recorded as having some calculus. There was a lower proportion of adults with calculus (64%) in Scotland than in either England or Wales (73% and 72% respectively). The proportion of adults with calculus was much higher among the older age groups, only 54% of adults aged 16 to 24 having this condition compared with 83% of the oldest adults.

As in the case of debris a much higher proportion of irregular attenders than regular attenders had some calculus. This is likely to be due, once again, to more efficient individual dental care by the regular attenders as well as the fact that regular attenders will have had more opportunity for the dentist to have removed any calculus by scaling at the surgery. Even among the regular attenders, however, the proportion of dentate adults with calculus was high with about two thirds of them having this condition.

8.4 Gingivitis

The proportion of dentate adults recorded in the dental examinations having gingivitis, that is, gum inflammation, was very high. In fact, 4 out of 5 of the individuals examined were recorded as having this condition.

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* The survey examination assessed only the presence of supragingival calculus (see detailed criteria in Appendix B).

There was variation in the incidence of gingivitis between the three countries with Scotland having a higher proportion of adults with this condition (93% compared with 82% in England and 76% in Wales) (Table 8.3).

Table 8.3 Proportion of dentate adults with some gingivitis

	Proportion with gingivitis	
United Kingdom	82%	*2784*
England	82%	*2350*
Wales	76%	*316*
Scotland	93%	*748*
Age		
16 – 24	77%	*646*
25 – 34	82%	*724*
35 – 44	81%	*589*
45 – 54	87%	*419*
55 and over	87%	*403*
Sex		
Male	82%	*1398*
Female	82%	*1386*
Attendance patterns		
Regular check-up	78%	*1270*
Only with trouble	88%	*1113*

Though there was no difference between men and women in the proportion who had some gingivitis, there was a higher proportion of dentate adults in the older age groups with this condition. It also appears that those adults who go to the dentist for a regular check-up were less likely to suffer from gingivitis than those who go to the dentist only when they have trouble with their teeth, although even among the regular attenders, 78% of dentate adults had gingivitis.

8.5 Periodontitis

If gingivitis is not treated at an early stage, then the condition of the gum may deteriorate even further so that pockets form between the tooth and the gum. Eventually the tooth will become loose and there may be no alternative but to have it extracted. Advanced gum disease is called periodontitis.

Although the proportion of adults with periodontitis was considerably smaller than the proportion with gingivitis, nevertheless 1 in 4 of the dentate population were found with this condition (Table 8.4). In Scotland, where, as we have seen, there was a very high incidence of gingivitis, the proportion of dentate adults with periodontitis was similar to the proportion found in England. Wales, which showed a lower incidence of gingivitis, also had a lower proportion of dentate adults with periodontitis (17% compared with 27% in England and 25% in Scotland).

The recorded prevalence of periodontitis varied considerably between different age groups, affecting only 3% of the youngest age group and 64% of the oldest age group. There was, also, a large difference in the proportion with periodontitis among regular attenders and those who attend only when having trouble with their teeth. There was also a higher proportion of men than women who were recorded as having periodontitis.

Table 8.4 Proportion of dentate adults with some periodontitis

	Proportion with some periodontitis	
United Kingdom	27%	*2784*
England	27%	*2350*
Wales	17%	*316*
Scotland	25%	*748*
Age		
16 – 24	3%	*646*
25 – 34	12%	*724*
35 – 44	29%	*589*
45 – 54	50%	*419*
55 and over	64%	*403*
Sex		
Male	30%	*1398*
Female	23%	*1386*
Attendance patterns		
Regular check-up	18%	*1270*
Only with trouble	38%	*1113*

8.6 The overall level of gum disease

Earlier sections of this chapter have shown the proportions of dentate adults with each of the measured gum conditions. However, it is interesting to see what proportion of the dentate population have any kind of gum disease. Debris can be removed by an individual by efficient tooth cleaning but calculus, gingivitis and periodontitis may need the intervention of a dentist. So, to form an impression of the incidence of gum trouble, the proportion of dentate adults with any or all of these three conditions are presented in Table 8.5.

Table 8.5 Proportion of dentate adults with calculus, gingivitis and/or periodontitis

	Proportion with some or all of the conditions	
United Kingdom	91%	*2784*
England	91%	*2350*
Wales	89%	*316*
Scotland	96%	*748*
Age		
16 – 24	85%	*646*
25 – 34	90%	*724*
35 – 44	92%	*589*
45 – 54	95%	*419*
55 and over	96%	*403*
Sex		
Male	92%	*1398*
Female	90%	*1386*
Attendance patterns		
Regular check-up	87%	*1270*
Only with trouble	96%	*1113*

From Table 8.5 it can be seen that compared with the younger dentate adults, a higher proportion of the older adults had one or more of these gum conditions. It can also be seen that a slightly higher proportion of those dentate adults who attend the dentist only when having trouble with their teeth had one or more of these conditions, compared with the regular attenders.

8.7 Dentate adult's perception of their gum problems

It has been shown that a very high proportion of dentate adults were recorded as having some type of gum disease. It is of interest to know whether people are aware of any trouble with their gums.

In fact, very few dentate adults reported problems with their gums. When asked whether their gums were swollen at all at the moment, just 3% said that they were. Again in answer to a question on whether or not their gums were inflamed, or redder than usual, at the moment, only 2% of dentate adults said that they were. A higher proportion, 26%, said that their gums had bled at sometime in the previous four weeks and 6% said that they had some additional trouble with their gums other than swelling, inflammation or bleeding. It can be seen, therefore, that only a very small proportion of dentate adults thought that they had any type of gum trouble.

In the following chapter we look at incentives for visiting the dentist. Those dentate adults who did not visit the dentist for a regular check-up were asked if they would visit the dentist under certain circumstances. It appears that among the non-regular attenders, gingivitis was not generally perceived as a harmful condition, for, of all the circumstances that were mentioned, the one which the smallest proportion said would make them visit the dentist was if their gums bled occasionally—a symptom of gingivitis (see Table 9.3).

The care that dentate adults take of their natural teeth was discussed in Chapter 6, where adult teeth cleaning habits were analysed (Section 6.3).

Because oral hygiene is a combination of both the state of the teeth and of the gums, some of the results presented previously are repeated here, in the context of gum care. It was seen that 64% of dentate adults said they they cleaned their teeth twice or more a day. Without observing how a person cleans their teeth, we do not know how efficiently this was done. It was seen, however, that of the dentate adults who were examined, a lower proportion of people who cleaned their teeth more than twice a day had any debris compared with those who cleaned their teeth less often (see Table 6.10).

The use of floss or woodsticks was not widespread, and, among dentate adults in the United Kingdom, just 8% said that they ever used dental floss and 9% said they ever used woodsticks. The use of floss and woodsticks was higher among the regular attenders than among those who attend only when having trouble with their teeth.

Earlier in this section, it was shown that a very small proportion of dentate adults were aware of any problems with their gums. People can be made more aware of gum diseases and gum care, at the dental surgery. When asked whether a dentist or any of his staff had given advice on the care of gums, 22% of dentate adults said that they had received advice. This figure varied considerably between people with different attendance patterns with one third of regular attenders saying that they had received advice on the care of their gums, compared with 11% of those who attend only when having trouble with their teeth (see Table 6.14).

8.8 Conclusions

The main conclusion to be drawn from the results is that only a very small proportion of dentate adults are in fact, completely free from periodontal disease despite the fact that the vast majority of dentate adults said that they had no trouble with their gums.

Those people who go to the dentist for a regular check-up, who in all other aspects of dental health were found to be in the most favourable position, did appear to suffer less from gum disease than did those who attend only when having trouble with their teeth, but even among regular attenders the prevalence of gum disease was high.

We have seen in Volume 1 of this report that the proportion of people keeping their natural teeth longer is increasing. If this trend continues then monitoring the health of the supporting tissues of the natural teeth will become even more important, and in the future efforts will need to continue to develop more satisfactory ways of measuring the prevalence of gum disease and its treatment.

9 Visiting the dentist

9.1 Introduction

We saw in Chapter 6 that 91% of people thought that regular visits to the dentist are important in keeping teeth healthy. As there was obviously a widespread belief in the importance of visiting the dentist, we look in this chapter at how people put their beliefs into practice.

In the interview we asked all dentate adults if they went to the dentist for a regular check-up, an occasional check-up or only when having trouble with their teeth. It has been shown in previous chapters that dental attendance pattern has a considerable effect on the state of the natural teeth, and that regular attenders were far more likely to be in a better position as regards their oral condition than those who visit the dentist only when having trouble with their teeth.

The major part of this chapter is concerned with the views and habits of the dentate adults, although for some items of information results are given for edentulous adults and comparisons made between the attitudes of the two groups.

9.2 Regional variations in dental attendance pattern

We begin by looking at the proportion of dentate adults with different dental attendance patterns in England, Scotland, Wales and the United Kingdom as a whole ·(Table 9.1).

Table 9.1 Dental attendance patterns in the United Kingdom

Attendance pattern	Country			
	England	Wales	Scotland	UK
	%	%	%	%
Regular check-up	44	39	38	43
Occasional check-up	14	18	15	14
Only with trouble	42	43	47	43
Total	100	100	100	100
Base	*2761*	*363*	*872*	*3632*

In the United Kingdom there was found to be an equal proportion (43%) of dentate adults who visited the dentist for a regular check-up and who went to the dentist only when having trouble with their teeth.

Comparing the three countries, there were similar proportions of regular attenders in both Scotland and Wales and a higher proportion in England. Scotland had the highest proportion of dentate adults who visited the dentist only when having trouble with their teeth (47%), and there was no significant difference between this proportion in England and in Wales.

Table 9.2 shows the variations in dental attendance patterns between the regions of England. Looking first at the proportions of dentate adults in the different regions who go to the dentist for a regular check-up, it can be seen that the areas of the East Midlands, and the South West had a higher proportion than the other areas of England. There was a significantly lower proportion of regular attenders in the North West than in any of the other regions and, in fact, though the rest of the regions had a higher proportion of regular attenders than Scotland or Wales, this area had a lower proportion than was found in either of those two countries.

The North West also had a very high proportion of dentate adults that visit the dentist only when having trouble with their teeth. Half the dentate population in that area had this attendance pattern which again was a higher proportion than was found in other English regions or in either Wales or Scotland. Generally, the south of the country had a lower proportion of dentate adults who attend only when having trouble with their teeth than the north, which had proportions similar to those found in Scotland and Wales.

9.3 The characteristics of regular attenders

As it has been shown that those people who attend the dentist for a regular check-up are more likely to be more

Table 9.2 Dental attendance pattern in the English regions

Attendance pattern	Region							England
	Northern		Midlands		Southern			
	North West	North & N East	West Midlands	East Midlands	South West	North Thames	South Thames	
	%	%	%	%	%	%	%	%
Regular check-up	35	42	43	48	50	44	46	44
Occasional check-up	13	13	11	10	13	17	15	14
Only with Trouble	52	45	46	42	37	39	39	42
Total	100	100	100	100	100	100	100	100
Base	*365*	*371*	*302*	*364*	*496*	*450*	*413*	*2761*

dentally fit than those who attend irregularly it is of interest to see in which groups of the community they are most likely to be found (Table 9.3).

In terms of age the lowest proportion of regular dental attenders in the United Kingdom was found among dentate adults aged 55 and over (32%) while the highest proportion (47%) was found among those aged 25 to 44. There was a slightly lower proportion of regular attenders among the youngest age group, perhaps because these adults tend to be more mobile and therefore less likely to have established regular patterns in their way of life.

The table also shows the proportion of regular attenders in the different sub-groups in the constituent countries of the UK (the figures for Wales have been included to give a complete picture but, due to the small base numbers, several apparent differences are not statistically significant).

In all but the oldest age group, there was a higher proportion of regular attenders in each age group in England than in Scotland. In Scotland there was a comparatively low proportion of regular attenders in the age group 25 to 34 and, in fact, there was a higher proportion of regular attenders in the youngest age group than among those age 25 to 34, which was contrary to the position in England.

Table 9.3 The Proportion of dentate adults in England, Wales, Scotland and the United Kingdom who attend for a regular check-up

	England		Wales		Scotland		UK	
Age								
16–24	45%	*604*	40%	*72*	40%	*239*	44%	*726*
25–34	49%	*685*	43%	*106*	35%	*246*	47%	*825*
35–44	47%	*575*	42%	*83*	42%	*173*	47%	*684*
45–54	41%	*432*	40%	*53*	34%	*105*	40%	*499*
55 and over	33%	*461*	19%	*49*	35%	*109*	32%	*524*
Sex								
Male	37%	*1371*	31%	*179*	28%	*429*	36%	*1624*
Female	50%	*1390*	46%	*184*	47%	*443*	50%	*1639*
Social Class								
I, II, IIIN	57%	*1102*	51%	*143*	55%	*343*	56%	*1300*
IIIM	37%	*942*	29%	*131*	28%	*305*	36%	*1108*
IV, V	30%	*505*	34%	*68*	19%	*176*	28%	*605*
All dentate adults	44%	*2761*	39%	*363*	38%	*872*	43%	*3262*

A higher proportion of dentate women than men were regular attenders in the United Kingdom as a whole and in each of the constituent countries. There was a slightly higher proportion of regular attenders among the women in England than among those in Scotland but a larger difference between the proportions of men who were regular attenders in the two countries (37% of men in England compared with 28% in Scotland).

With respect to social class, the highest proportion of regular attenders in the United Kingdom was found among Social Classes I, II and III non-manual and the lowest among Classes IV and V. This again was true in each of the countries, and though there was no difference between the proportions of regular attenders in the top social class group in the three countries, the proportion of regular attenders in the other social classes was lower in Scotland than in England with the proportion of regular attenders among Social Classes IV and V being particularly low (19%) in that country.

So it can be seen that those dentate adults who go to the dentist for a regular check-up were proportionally most likely to be found among the top social class group, female and from the younger age groups.

9.4 Incentives for visiting the dentist

In Chapter 6, we saw that 84% of those adults who said they only went to the dentist when they were having trouble with their teeth also said that they thought that regular visits to the dentist were important for keeping their teeth healthy. We were therefore interested to see why these people did not visit the dentist regularly and we look in this section at the reasons why irregular dental attenders did not go to the dentist for a regular check-up.

Table 9.4 Reasons for not visiting the dentist for a regular check-up

Why informant does not go for a regular check-up	Occasional check-up	Only with trouble	Both attendance patterns
Scared	15%	29%	26%
No trouble with teeth	30%	29%	29%
Apathy	25%	17%	19%
No time/difficult to get appointment	24%	15%	17%
Not worth it now	3%	6%	6%
Other reason	9%	13%	12%
Base	*444*	*1392*	*1736*

Those people who had said that they only went to the dentist for an occasional check-up or only when having trouble with their teeth were asked *'What is the main reason for you not going for a regular check-up?'* (Table 9.4).

The reason mentioned by the highest proportion of non-regular attenders (29%) was the fact that they had no trouble with their teeth. Overall, the next most common reason given was fear which was mentioned by 26% of the non-regular attenders.

Not surprisingly fear played a greater part in the reasons for not going to the dentist among those that went only when having trouble than it did among those who said they went for an occasional check-up.

Among this latter group of people, the reasons most frequently mentioned for not going to the dentist for a regular check-up were more concerned with apathy and the difficulties of getting an appointment rather than with actual dislike of visiting the dentist.

A large proportion of the non-regular attenders had said that they did not go for a regular check-up because they had no trouble with their teeth, and for those informants who were dentally examined, we were able to see if, in fact, they actually needed treatment (Table 9.5).

Table 9.5 **The number of decayed teeth among irregular dental attenders**

Number of decayed teeth	Non-regular dentate adults who thought they had no trouble with their teeth	All non-regular dentate adults
	%	%
0	36	31
1–5	53	55
6–11	9	11
12 or more	2	3
Total	100	100
Base	*394*	*1494*

Although there was a higher proportion of dentate adults with no decayed teeth among the non-regular dentate adults who thought they had no trouble with their teeth than among non-regular dentate adults as a whole, as many as two out of three of the former group were recorded as needing restorative treatment.

One of the reasons for not visiting the dentist, given by 6% of the non-regular attenders was that it was no longer worth visiting the dentist and in fact, of these people who were dentally examined, three quarters had lost 18 or more teeth.

As well as looking at the reasons why non-regular attenders did not go to the dentist for regular check-ups we were interested in the circumstances under which they would go to the dentist. People who said they did not go for regular check-ups were asked if they would go to the dentist given various specific circumstances and Table 9.6 shows the proportion who said they would go to the dentist in each case.

Table 9.6 **Reasons why non-regular attenders would visit the dentist**

'Would you go to the dentist if you had.....'	Percentage who would go to the dentist	
Toothache that kept you awake at night	97%	*1836*
A problem with your denture	88%	*590**
A swollen face	72%	*1836*
Sore gums	62%	*1836*
A tooth with a piece broken off	58%	*1836*
A tooth which felt loose	58%	*1836*
Occasional twinges of toothache	49%	*1836*
A gumboil	47%	*1836*
Not having been to the dentist for a long time	36%	*1836*
Gums which bled occasionally	36%	*1836*

**Base includes only the non-regular partial denture wearers.*

Since this group comprised many more people who only visited the dentist when they were having trouble with their teeth than those who went for an occasional check-up, it is perhaps, not surprising that one of the lowest proportions was for those who said they would be prompted to go to the dentist because they had not been for a long time. A similar proportion (36%), said they would go, if their gums bled occasionally.

Of the reasons given, the one that the highest proportion of non-regular attenders said would make them go to the dentist was toothache which kept them awake at night and a high proportion of partial denture wearers who were non-regular attenders said they would go to the dentist if they had a problem with their dentures.

To investigate how these results compared for different groups, we looked at the variation in the proportion of people who said they would go to the dentist under one or more of the following conditions: toothache that kept them awake at night; a swollen face; sore gums, a loose or broken tooth (Table 9.7).

Table 9.7 **Proportions of non-regular dentate adults who would go to the dentist if they had toothache which kept them awake at night; swollen face; sore gums; broken/loose tooth**

	Proportion who would visit the dentist	
United Kingdom	41%	*1836*
England	41%	*1534*
Wales	38%	*221*
Scotland	44%	*540*
Age		
16–24	37%	*397*
25–34	40%	*431*
35–44	41%	*361*
45–54	46%	*296*
55 and over	42%	*350*
Sex		
Male	39%	*1028*
Female	43%	*808*
Social class		
I, II, IIIN	46%	*565*
IIIM	38%	*703*
IV, V	42%	*421*
Attendance pattern		
Occasional check-up	48%	*444*
Only with trouble	39%	*1392*

In the United Kingdom as a whole 41% of non-regular dentate adults said that they would go to the dentist under one or more of these circumstances, and a higher proportion of adults in Scotland said this than in either Wales or England.

Of those adults who go to the dentist only when having trouble with their teeth, only 39% said they would go to the dentist in one or other of the circumstances mentioned compared with 48% of those who go for an occasional check-up.

A higher proportion of the non-regular women attenders than men said that they would go to the dentist under these circumstances and of the different social class groups, the highest proportion who would go to the dentist, was found among the top group.

We saw earlier that the women and those from the top social class group were most likely to be regular attenders and it seems that even among the non-regular attenders these two groups had a better attitude towards dental care.

9.5 Delaying a visit to the dentist

So far in this chapter we have looked at the reasons why non-regular dental attenders do not visit the dentist for a regular check-up and the circumstances under which they would go to the dentist. However even regular attenders may delay visiting the dentist for various reasons and it is these disincentives to visit the dentist that we turn to in this section.

Table 9.8 Reasons for delaying a visit to the dentist among dentate adults by attendance pattern and among the edentulous

'I put off going to the dentist because...'	Proportions of adults for which each reason applies at all				
	Regular check-up	Occasional check-up	Only with trouble	All dentate adults	Edentulous adults
I'm scared of the dentist	26%	47%	58%	43%	37%
It's difficult to get time off work	15%	34%	30%	24%	10%
I don't like having fillings	31%	50%	55%	44%	—
It's too expensive to go too often	12%	29%	36%	24%	33%
I haven't got a regular dentist	4%	14%	28%	16%	19%
I can't be bothered really	8%	46%	56%	34%	23%
Of the thought of having teeth out	24%	40%	48%	36%	—
It's difficult to get an appointment	9%	18%	20%	15%	8%
It's a long way to go	5%	13%	11%	9%	9%
Base	*1404*	*444*	*1392*	*3262*	*1376*

All adults were given a list of reasons why a person might put off going to the dentist and asked to indicate how much each reason applied to them.

Table 9.8 shows, for dentate adults the proportions of people with different attendance patterns, who said that the reasons applied to them.

It can be seen that fear and a dislike of fillings and extractions were the main reasons that people put off going to the dentist. A higher proportion of those who only went when they had trouble with their teeth said that this made them put off going to the dentist compared with the regular attenders. It is impossible to say whether it is because the regular attenders fear the dentist less, that they go regularly or whether it is because they go to the dentist regularly that they have less fear of fillings and extractions.

Apathy was a major reason for the non-regular attenders putting off a visit to the dentist, with 56% of those who visit the dentist only when having trouble saying that they put off a visit because they could not be bothered. The higher proportions of non-regular attenders who said that it was difficult to get time off work or that it was a long way to go are probably also indications of apathy although it might be that in some cases it is the physical difficulties of visiting the dentist that prevent people from being regular attenders.

A quarter of dentate adults said that the cost of treatment made them put off visiting the dentist and this particularly applied to those who go to the dentist only when having trouble with their teeth. The question of the cost of dental treatment will be dealt with separately, however, in Chapter 11.

To explore this question of delaying a visit to the dentist in a little more detail we look at some of the basic variables and examine the proportion of adults who said that either the statement *'I put off going to the dentist because I am scared of the dentist'* or *'I put off going to the dentist because I can't be bothered really'* applied to them at all (Table 9.9).

In the early sections of the chapter we looked only at information given by the dentate adults because our concept of attendance pattern is only relevant to people with natural teeth.

Table 9.9 Proportion of adults who delay a visit to the dentist through fear or apathy

	'I put off going to the dentist because....'		Base
	I'm scared of the dentist	I can't be bothered really	
United Kingdom	41%	31%	*4639*
England	42%	30%	*3833*
Wales	44%	33%	*580*
Scotland	38%	34%	*1420*
Age			
16–24	47%	41%	*729*
25–34	49%	34%	*860*
35–44	43%	31%	*785*
45–54	40%	30%	*728*
55 and over	34%	24%	*1532*
Sex			
Male	34%	37%	*2176*
Female	47%	25%	*2463*
Social class			
I, II, IIIN	37%	26%	*1658*
IIIM	44%	34%	*1561*
IV, V	44%	33%	*976*
Attendance pattern			
Natural teeth only	44%	34%	*2304*
Partial dentures	40%	32%	*958*
Edentulous	37%	23%	*1376*

However, those people with no natural teeth are likely to have opinions about visiting the dentist and so we include them in this analysis.

Fear was less of a disincentive to visit the dentist in Scotland than in either England or Wales whereas a higher proportion of adults said that they *'could not be bothered'* in Scotland compared with England.

It is, perhaps, surprising to see that, though a higher proportion of the dentate than the edentulous, said that fear made them put off going to the dentist, 37% of people with no natural teeth were scared of the dentist.

There was a high level of apathy among the younger age groups, and also fear of the dentist, though both proportions diminished among the older age groups.

A higher proportion of women than men were scared of the dentist though a lower proportion were apathetic about visiting the dentist. One might speculate, bearing in mind earlier results, that the women will go to the dentist despite their fear whereas the apathy shown by the men is an obstacle which is less easily overcome.

9.6 Changes in an individual's attendance pattern

At the beginning of this chapter we saw that dental attendance pattern varied with age and to see if this related to individual's experiences we asked dentate adults whether they went to the dentist more often, about the same or less often than they did five years previously (Table 9.10).

Table 9.10 Dentate individuals' attendance pattern compared with 5 years previously in England, Scotland, Wales and the United Kingdom

'Would you say that nowadays you go to the dentist.....	Country			
	England	Wales	Scotland	UK
	%	%	%	%
More often	18	19	17	18
About the same	56	49	53	55
Less often	26	32	30	27
...than you did 5 years ago?'				
Total	100	100	100	100
Base	*2761*	*363*	*872*	*3262*

In the United Kingdom just over a half of the dentate adults said they visited the dentist with the same frequency as they had done five years previously, but of those that had changed, the majority had become less frequent attenders. In Wales, a slightly lower proportion of people visited the dentist with the same frequency as five years previously than in Scotland or England and in England a lower proportion of people had become less frequent attenders than in either of the other two countries.

In Volume 1 of this report we saw that in England and Wales the proportion of regular attenders had increased between 1968 and 1978 which might seem to contradict the fact that a higher proportion of adults had become less frequent attenders. However a change in the frequency with which people visit the dentist does not necessarily mean a change in their attendance pattern as defined by the surveys. For example, a person who five years previously only went to the dentist when they had trouble with their teeth may have said that they were visiting the dentist less frequently but would remain in the same dental attendance group.

Table 9.11 shows how the changes in the frequency of visiting the dentist related to current dental attendance pattern.

Table 9.11 Individuals' attendance pattern compared with 5 years previously compared with current dental attendance pattern

"Would you say that nowadays you go to the dentist....	Attendance pattern		
	Regular check-up	Occasional check-up	Only with trouble
	%	%	%
More often	25	24	10
About the same	64	37	51
Less often	11	39	39
....than you did 5 years ago?"			
Total	100	100	100
Base	*1404*	*444*	*1392*

Table 9.12 Individuals' dental attendance pattern compared with five years previously by age

"Would you say that nowadays you go to the dentist....	Age					
	16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
More often	21	27	18	11	8	18
About the same	38	50	60	66	68	55
Less often	41	23	22	23	24	27
....than you did 5 years ago?"						
Total	100	100	100	100	100	100
Base	*726*	*825*	*684*	*499*	*524*	*3262*

A higher proportion of regular attenders than non-regular attenders visited the dentist with the same frequency as they had five years previously while of those that had changed, the majority had become more frequent attenders.

Of those who attend only when having trouble with their teeth a higher proportion had become less frequent than more frequent attenders.

The older adults were more likely to visit the dentist with the same frequency as five years previously than the younger adults (Table 9.12). In the youngest age group a large proportion (41%) said that they visited the dentist less frequently than they had five years previously. This is likely to be affected by the fact that adults in this age group are more likely to have changed their life styles in the five year period than adults in the other age groups. In fact, five years previously, the majority of this age group would have been at school and thus more likely to have had more established regimes.

Of those adults aged 25 to 34, a slightly higher proportion of those who had changed the frequency of their dental attendance had become more frequent rather than less frequent attenders. This is likely to be affected by the fact that five years previously they had been more mobile and were now establishing more permanent life styles.

In the age groups over 35, though the majority of adults retained the same frequency of attendance the majority of those who had changed had become less frequent attenders. It must be remembered, however, that any analysis by age will be influenced by the fact that among the older age groups there was a lower proportion of dentate adults who visit the dentist for a regular check-up.

It was obviously of interest to see why people were going to the dentist more or less frequently than five year previously. Each adult with some natural teeth who had said that they had changed the frequency of their dental visits in the previous five years was asked *"What has made you go more(less) often?"* (Table 9.13).

The reasons given for going to the dentist less often were very similar to those given to the question on why people were not regular attenders. Over a third of dentate adults in each age group who said that they went to the dentist less often, said that this was because they had no trouble or less trouble with their teeth. It was not surprising that a higher proportion of older adults said they went to the dentist less often because they had fewer teeth but the comparatively high level of apathy among the youngest age group is not an encouraging result.

Table 9.13 Reasons for visiting the dentist less often for dentate adults in different age groups

Why attends less often	Age					
	16–24	25–34	35–44	45–54	55 and over	All ages
No/less trouble	36%	38%	38%	38%	36%	37%
Fewer teeth	1%	3%	8%	20%	25%	9%
Can't be bothered	28%	13%	15%	13%	13%	18%
More scared	13%	15%	9%	5%	6%	11%
Lack of time	16%	17%	14%	13%	5%	14%
Base	*296*	*189*	*147*	*115*	*124*	*872*

Table 9.14 Reasons for visiting the dentist more often for dentate adults in different age groups

Why attends more often	Age					
	16–24	25–34	35–44	45–54	55 and over	All ages
More trouble with teeth	31%	27%	40%	66%	62%	37%
More dentally aware	52%	48%	33%	30%	25%	43%
More incentive	11%	17%	22%	13%	13%	16%
Less frightened	6%	9%	5%	5%	3%	7%
Has a good dentist now	5%	5%	6%	2%	3%	5%
Base	*148*	*222*	*125*	*56*	*41*	*591*

More encouraging are the reasons given for visiting the dentist more frequently than five years previously (Table 9.14). The reason that the highest proportion of dentate adults gave for visiting the dentist more often was that they were more dentally aware than they were five years ago. This group consisted of people who said that they now realized how important visiting the dentist was and people who said they wanted to keep their natural teeth and therefore visited the dentist more often.

Another reason for visiting the dentist more often, mentioned by 37% of the relevant adults, was that they had more trouble with their teeth and, not surprisingly, a higher proportion of the older adults gave this as a reason compared with younger adults.

Of those adults who visited the dentist more frequently, 16% said that they now had more incentive to attend and this group included people who now received a reminder from the dentist and people who went to the dentist with other members of their family, usually children.

9.7 The most recent visit to the dentist

Having looked at people's attitudes towards visiting the dentist in general, we look now at the individuals most recent visit to the dentist. Every informant, including people who had lost all their natural teeth, was asked how long ago they last visited the dentist (Table 9.15).

Table 9.15 Most recent visit to the dentist by dental status

Last visited the dentist	Dental status		All adults
	Dentate	Edentulous	
	%	%	%
In last year	64	10	49
1 but less than 2 year ago	9	8	8
2 but less than 5 year ago	15	22	17
5 but less than 10 years ago	6	19	10
10 but less than 15 years ago	2	14	6
15 or more years ago	4	27	10
Total	100	100	100
Base	*3262*	*1376*	*4639*

Table 9.16 Most recent visit to the dentist for the dentate by age

Last visited the dentist	Age					
	16–24	25–34	35–44	45–54	55 and over	All ages
	%	%	%	%	%	%
Less than 6 months ago	49	51	49	44	36	46
6 months but less than 1 year ago	21	21	16	16	14	18
1 year but less than 2 years ago	10	8	8	10	9	9
2 years but less than 5 years ago	14	14	17	17	17	15
5 or more years ago	6	6	10	13	24	12
Total	100	100	100	100	100	100
Base	*726*	*825*	*684*	*499*	*524*	*3262*

Table 9.17 Most recent visit to the dentist for the dentate by attendance pattern

Last visited the dentist	Attendance pattern		
	Regular check-up	Occasional check-up	Only with trouble
	%	%	%
In last 6 months	81	34	17
6 months but less than 1 year ago	16	37	14
1 year but less than 2 years ago	2	16	13
2 years but less than 5 years ago	1	12	30
5 or more years ago	—	1	26
Total	100	100	100
Base	*1404*	*444*	*1392*

One half of all adults said that they had visited the dentist in the last year. Among the dentate population, 64% had been to the dentist in this period while only 10% of the edentulous had done so. Three out of five of the edentulous had not been to the dentist for five years while 27% had not been for 15 or more years. Table 9.16 shows that among the dentate adults those in the younger age groups had been to the dentist more recently than than those in the older age groups. As this is likely to be affected by the variation in the proportions of regular attenders in each age group we go on to look at the variation in the period since the most recent visit to the dentist by attendance pattern (Table 9.17).

Of those adults who said that they visit the dentist for a regular check up, 97% had been to the dentist in the previous year. The majority of those adults who attend the dentist only when having trouble with their teeth had not been to the dentist for much longer periods, and, in fact, over half had not been to the dentist for more than two years.

9.8 Number of years at present dental practice

A factor which might influence how often people visit the dentist is whether they have been visiting the same dentist for several years or whether they find a new dentist when they want treatment. We asked all dentate adults and all edentulous adults who had visited the dentist in the last ten years whether, when they went to the dentist for their most recent treatment, it was the first time they had visited that group of dentists and, if not, how long they had been going to the same dental practice (Table 9.18).

Table 9.18 Number of years at most recently attended dental practice by dental status

Practice attended for:	Dental status	
	Dentate	Edentulous
	%	%
First time	30	72
Less than 1 year	2	1
1 year but less than 2 years	4	1
2 years but less than 5 years	16	4
5 years or over	47	22
Don't know	1	—
Total	100	100
Base	*3242**	*812†*

* *Who had ever visited the dentist*
† *Who had visited the dentist in the last ten years*

The results show that people were most likely either to have been going to a practice for 5 years or more, or to have visited it for the first time and this 'polarisation' is evident among both the edentulous and the dentate. However, a much higher proportion of people with no natural teeth had visited their most recent dental practice for the first time than was the case among the dentate (72% of the edentulous had visited their most recent dental practice for the first time compared with 30% of the dentate).

Among the dentate there was little variation between the age groups in the proportion who had attended their most recent dental practice for the first time, except for the slightly higher proportion among those aged 55 and over (Table 9.19).

There was more variation between age groups among those who had attended their most recent practice for five or more years. Among those dentate adults aged 16 to 24, 44% had attended their most recent practice for five or more years. It is likely that a proportion of this group will have been attending a practice that they first visited while at school, while the slightly lower proportion of adults aged 24 to 35 who had attended their most recent practice for 5 or more years could be influenced by the fact that these adults were more likely to have broken away from childhood patterns of life and be in the process of establishing new systems. The higher proportion of adults aged 35 or over who had visited their present dentist for five years may be due to the more established habits of these age groups.

Relating to the length of time at the most recently attended dental practice to dental attendance pattern (Table 9.20) it is perhaps not surprising to see that a higher proportion of regular attenders had been attending the same practice for over five years than those who attend only when having trouble with their teeth. What is perhaps surprising is the relatively high proportion of 36% of those who attend only when having trouble with their teeth, who had been at the same practice for five or more years.

Table 9.19 Number of years at most recently attended dental practice for the dentate by age

Practice attended for:	Age					
	16–24	25–34	35–44	45–54	55 and over	All ages
	%	%	%	%	%	%
First time	28	31	28	29	34	30
Less than 1 year	2	2	1	1	1	2
Over 1 but less than 2 years	6	5	5	3	1	4
Over 2 years but less than 5 years	19	21	16	12	10	16
5 or more years	44	40	50	54	53	47
Don't know	1	1	—	1	1	1
Total	100	100	100	100	100	100
*Base**	*719*	*822*	*680*	*497*	*519*	*3242*

* *All dentate who had ever visited the dentist*

Table 9.20 Number of years at most recently attended dental practice by dental attendance pattern

Practice attended for:	Attendance pattern		
	Regular check-up	Occasional check-up	Only with trouble
	%	%	%
First time	10	29	50
Less than 1 year	2	1	1
Over 1 but less than 2 years	7	4	2
Over 2 but less than 5 years	22	20	10
Over 5 years	59	46	36
Don't know	—	—	1
Total	100	100	100
Base	*1404*	*444*	*1392*

One half of those who attend only when having trouble with their teeth had attended their most recent practice for the first time, while only 10% of the regular attenders had done so.

9.9 Choosing a dentist

In addition to looking at how long a person has been attending a dentist it is of interest to see how a person chose the particular dental practice that they visited—whether it was a conscious decision or whether just for reasons of convenience.

The reason given for choosing a dentist mentioned by the highest proportion of dentate adults (74%) was that the dentist had been recommended to them by either a friend, relative, their doctor or other person, though 30% said they went to their dentist because he was the nearest to either their home or workplace. It is not surprising that a comparatively large proportion of the youngest adults said that they went to their particular dentist because it was their family dentist. This proportion decreased among the older adults while the proportion who said they chose a dentist because he was recommended to them increased smong the older dentate adults (Table 9.21).

Table 9.21 How informant chose present dentist for dentate adults in different age groups who had ever visited the dentist

"How did you come to choose that particular dentist?"	Age					
	16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
Family dentist	30%	13%	7%	7%	4%	13%
Recommended	37%	47%	51%	52%	52%	47%
Nearest	24%	30%	34%	31%	32%	30%
Base	*719*	*822*	*680*	*497*	*519*	*3242*

Table 9.22 How informant chose present dentist for dentate adults by attendance pattern and for the edentulous who had visited the dentist in the last ten years

"How did you come to choose that particular dentist?"	Attendance pattern			Edentulous adults*
	Regular check-up	Occasional check-up	Only with trouble	
Family dentist	16%	16%	10%	6%
Recommended	53%	50%	42%	53%
Nearest	28%	30%	33%	32%
Base	*1404*	*444*	*1392*	*812*

* *Who had visited the dentist in the last ten years*

Compared with the regular dental attenders, a higher proportion of dentate adults who went to the dentist only when having trouble with their teeth said they chose their present dental practice because it was nearest whereas over half of the regular attenders said that their present dentist had been recommended to them (Table 9.22).

Edentulous adults who had visited the dentist in the previous ten years were also asked how they chose their dental practice. One half said that they chose that practice because it had been recommended to them, and one third said that they chose it because it was the nearest.

9.10 Making dental appointments

An area of interest when looking at individuals' dental attendance habits is how people arrange a dental appointment. In some cases dentists send a note to patients to remind them that they are due for a check-up but otherwise it is up to the individual to make the decision when to go to the dentist. We asked all dentate adults whether they made an appointment at the end of the previous course of treatment, whether they made an appointment some time before they wanted to see the dentist or whether they contacted the dentist when they wanted an appointment immediately.

One quarter of the dentate adults in the UK, who had ever visited a dentist received a reminder from the dentist when they were due for an appointment. However 38% said that they contacted the dentist when they wanted an appointment as soon as possible, and only 16% made another appointment at the end of their previous course of treatment.

Table 9.23 Making a dental appointment for dentate adults* in England, Scotland, Wales and United Kingdom

How informant makes appointment	Country			
	England	Wales	Scotland	UK
	%	%	%	%
Sent reminder	25	26	22	25
Makes appointment:				
at end of treatment	17	13	11	16
sometime before wants to see dentist	20	20	25	20
when wants to see dentist as soon as possible	38	41	42	38
Other	—	—	—	1
Total	100	100	100	100
Base	*2743*	*361*	*868*	*3242*

* *Who had ever visited the dentist*

A slightly higher proportion of dentate adults in England and Wales received a reminder from their dentist than in Scotland and a slightly higher proportion of adults in that country than in England made an appointment when they wanted to see the dentist as soon as possible (Table 9.23).

Table 9.24 Making a dental appointment for dentate adults* with different attendance patterns

How informant makes appointment	Attendance pattern			
	Regular check-up	Occasional check-up	Only with trouble	All dentate adults
	%	%	%	%
Sent reminder	40	24	10	25
Makes appointment:				
at end of treatment	30	9	5	16
sometime before wants to see dentist	25	36	10	20
when wants to see dentist as soon as possible	5	31	74	38
Other	—	—	1	1
Total	100	100	100	100
Base	*1404*	*444*	*1392*	*3242*

* *See footnote to Table 9.23*

Three quarters of those adults who only visit the dentist when they have trouble with their teeth said that they contacted the dentist when they wanted an appointment as soon as possible while this was only true for 5% of regular attenders (Table 9.24).

Compared with the dentate adults who only go to the dentist when they have trouble with their teeth, a higher proportion of regular attenders either received a reminder from their dentist when an appointment was due or make another appointment at the end of the previous course of treatment.

In addition to looking at when people made dental appointments we were also interested in how long they had to wait before they could see the dentist and Table 9.25 shows this for both those adults who made an appointment some time before they wanted to see the dentist and for those who wanted to see the dentist as soon as was possible.

Table 9.25 Length of time between making an appointment and seeing the dentist

How long a wait for appointment	Makes appointment: Before wants to see dentist	Makes appointment: When wants to see dentist as soon as possible
	%	%
Same day	8	32
1 – 6 days	18	31
1 week, less than 2 weeks	23	16
2 weeks less than 4 weeks	27	11
1 month or over	20	4
Other	1	1
Don't know/can't remember	3	5
Total	100	100
Base	*657*	*1235*

A high proportion (63%) of people who contacted the dentist when they wanted an appointment as soon as possible, did get an appointment either on that day or within a week though 15% had to wait over two weeks for an appointment.

For those people who contacted the dentist some time before they wanted an appointment there was more variability in the length of time before they saw the dentist though 49% of them saw the dentist within two weeks.

9.11 The length of a course of dental treatment

When a person visits the dentist it may be, if there is little or nothing wrong with their teeth, that any treatment necessary will be completed in just one visit though some dentists allow time only for a check-up at the first visit so that two visits are necessary for even minor treatment. If there is much work to be done, however, a person may need to visit the dentist several times in a course of treatment. People who have solely natural teeth, people with partial dentures and the edentulous are likely to have different treatment needs and Table 9.26 shows how many visits were made in the last course of treatment for people in the different dental states. Because of potential memory difficulties this analysis is confined to those people who had visited the dentist in the last ten years.

Table 9.26 Number of visits in the last course of treatment by dental state for adults who had visited the dentist in the last ten years

Number of visits	Dental state: Natural teeth only	Partial dentures	Edentulous	All adults
	%	%	%	%
1 visit	57	39	15	44
2 visits	25	23	17	23
3 visits	10	16	31	16
4 visits	4	10	22	9
5 or more visits	4	12	15	8
Total	100	100	100	100
*Base**	*2150*	*906*	*797*	*3853*

* *The base for tables in this section exclude those people in the middle of a course of treatment and those who had not been to the dentist for over ten years*

Table 9.27 Number of visits in last course of treatment for dentate adults with different attendance patterns

How many visits in last course	Attendance pattern: Regular check-up	Occasional check-up	Only with trouble	All dentate adults
	%	%	%	%
1 visit	59	43	47	52
2 visits	25	31	21	24
3 visits	9	15	14	12
4 visits	3	5	9	6
5 or more visits	4	6	9	6
Total	100	100	100	100
*Base**	*1287*	*424*	*1342*	*3056*

* *See footnote to Table 9.26*

Just over a half of these people with natural teeth only made just one visit to the dentist in their last course of treatment and only 18% needed to make more than two visits. People with partial dentures were more likely to make several visits to the dentist for a course of treatment—12% had had to make 5 or more visits in their last course of treatment and this is probably due to the fact that any fitting of dentures necessitates more then one visit to the dentist. A low proportion (15%) of the endentulous only made one visit to the dentist in their last course of treatment and the majority had to make over two visits. This again was likely to be due to the nature of the treatment they received—that is the fitting or repair of dentures. We shall return to the subject of the type of treatment received in a later chapter.

For all people with some natural teeth, that is the partially dentured and people with solely natural teeth (Table 9.27) 52% made only one visit in their last course of treatment and 24% made two visits. A higher proportion of dentate adults who attended for regular check-ups made one visit in their last course of treatment compared with the non-regular attenders while a higher proportion of non-regular then regular attenders had made three or more visits. The number of visits made in any course of treatment is likely to depend on the type of treatment received at the surgery and, in the following chapter, we turn to this subject of dental treatment.

10 Treatment received at the dental surgery

10.1 Introduction

Although individuals may influence, to some extent, the dental treatment they receive by the care they take of their teeth and the regularity with which they visit the dentist, the treatment at the surgery is very much a matter for the dental practitioner.

That treatment can vary in extent from a scale and polish to multiple extractions and denture work and, as was seen in previous chapters, this is likely to have an effect on the number of times an individual visits the dentist during a course of treatment.

We look, then in this chapter at the types of treatment that individuals received both at their most recent course of treatment and at any time in their life, and also at attitudes to the different types of treatment available.

10.2 The most recent course of treatment

In this section, we look at the types of treatment received at the most recent visit (or series of visits) to the dentist, for all dentate adults who had ever visited a dentist. We have excluded from the analyses, those people who were currently under treatment at the time of the interview as the full extent of that treatment would not have been known.

It can be seen from Table 10.1, that the most common item of treatment received at the last course of treatment was scaling and polishing, and while there was no variation between the proportion of dentate adults in England, Scotland and Wales who had received this treatment, within England there was a higher proportion in the south than in the north who had had their teeth scaled and polished in the last course of treatment.

Again, in the case of fillings at the last course of treatment, there was little variation between the three countries, but within England, a larger proportion of dentate adults in the south than in the north had had teeth filled at their most recent course of treatment. (For example, 56% of dentate adults in the North Thames area compared with 39% in the North and North East).

There was considerable variation between countries in the proportion of people who had had an X-ray taken at their last dental visit; the proportion was highest in England at 21% compared with 12% in Wales and 10% in Scotland. The regional analysis for England shows that the proportion of dentate adults who had an X-ray at their last visit in the North and the Midlands was not dissimilar to that shown in Wales and Scotland but that a much higher proportion of dentate adults in the Southern regions had had X-rays taken. We will be

Table 10.1 Treatment at the most recent visit(s) by region

'During the visit(s) you made for that course of treatment did you have any. . .'	Region							Country			
	North West	North & N East	West Midlands	East Midlands	South West	North Thames	South Thames	England	Wales	Scotland	UK
X-rays taken	13%	11%	8%	13%	22%	40%	32%	21%	12%	10%	20%
Teeth filled	46%	39%	39%	38%	51%	56%	50%	46%	44%	48%	46%
Teeth taken out	36%	33%	40%	35%	28%	21%	25%	30%	36%	38%	32%
Teeth scaled and polished	46%	47%	50%	47%	55%	64%	55%	52%	49%	50%	52%
Base	*346*	*350*	*289*	*341*	*459*	*415*	*483*	*2583*	*341*	*817*	*3056*
New dentures fitted	37%	33%	31%	30%	33%	35%	38%	34%	34%	40%	34%
Old dentures repaired	7%	13%	1%	5%	7%	10%	8%	8%	2%	6%	7%
Base	*97*	*93*	*85*	*93*	*149*	*121*	*109*	*747*	*104*	*289*	*906*
Crowned/capped/ bridged	3%	4%	4%	1%	3%	4%	5%	3%	2%	4%	3%
Other treatment	4%	3%	5%	2%	2%	4%	4%	4%	3%	5%	4%
Base	*346*	*350*	*289*	*341*	*459*	*415*	*483*	*2583*	*341*	*817*	*3056*

Bases exclude those people under treatment at time of interview and those who had never visited the dentist.

looking at the provision of X-rays in more detail later in this chapter.

In regional terms, the reverse pattern was found when looking at the proportion of adults who had had a tooth extracted at their last course of treatment, where there was a higher proportion in Scotland, Wales and the northern regions of England and a particularly high proportion (40%) in the West Midlands area.

Clearly people received many different combinations of treatment at their most recent visit to the dentist, but one area of particular interest is whether people had teeth filled or extracted, as each tooth taken out is one step along the road to edentulousness.

We therefore summarised the treatment received at the most recent course of treatment, into the four groups shown in Table 10.2. The people who had 'no fillings/ no extractions' included, in the majority, those who received merely a check-up or a scale and polish, although some had had denture work carried out.

Table 10.2 tells a very similar story to that above. A higher proportion of adults in Scotland and in the northern regions of England had had extractions but no fillings at their most recent course of treatment, with again the highest proportion (31%) being found in the West Midlands.

England had the highest proportion of adults who received neither fillings nor extractions at their last course of treatment but there was no obvious pattern in the variation of this proportion for the different English regions.

There was a comparatively high proportion of adults in the southern regions of England who had received fillings but no extractions at their last course of treatment. However, it is likely that any regional variation in the treatment received will be influenced by the regional variation in attendance pattern that we described in the previous chapter so we go on to look at how the pattern of treatment varied by attendance pattern (Table 10.3).

There is a very substantial difference between the types of treatment received by regular attenders at the last course of treatment and that received by those who only go when having trouble with their teeth.

Of those who attend only when having trouble with their teeth, 60% had had an extraction in their last course of treatment compared with just 8% of regular attenders. Restorative treatment was much more common among the regular attenders where 46% of adults had had a filling and no extraction at their last course of treatment but where a further 46% had had neither a filling nor an extraction.

Table 10.2 Major type of treatment received at most recent visit by region

Summarised treatment at most recent visit	Northern		Midlands		Southern			Country			
	North West	North & N East	West Midlands	East Midlands	South West	North Thames	South Thames	England	Wales	Scotland	UK
	%	%	%	%	%	%	%	%	%	%	%
No fillings/ no extractions	28	36	31	34	32	29	32	32	29	25	31
Some fillings/ no extractions	36	30	29	31	40	49	43	38	35	37	37
Some fillings/ some extractions	10	9	9	7	10	7	7	8	9	11	9
No fillings/ some extractions	26	24	31	28	18	14	18	22	27	27	23
Don't know	—	1	—	—	—	1	—	—	—	—	—
Total	100	100	100	100	100	100	100	100	100	100	100
*Base**	*346*	*350*	*289*	*341*	*459*	*415*	*483*	*2583*	*341*	*817*	*3056*

* *See footnote to Table 10.1*

Table 10.3 Major type of treatment received at most recent visit by attendance pattern

Summarised treatment at most recent visit	Attendance pattern			
	Regular check-up	Occasional check-up	Only with trouble	All dentate adults
	%	%	%	%
No fillings/no extractions	46	34	14	31
Some fillings/no extractions	46	49	25	37
Some fillings/some extractions	4	9	14	9
No fillings/some extractions	4	8	46	23
Don't know	—	—	1	—
Total	100	100	100	100
*Base**	*1287*	*424*	*1342*	*3056*

* *See footnote to Table 10.1*

Table 10.4 Major type of treatment received at most recent visit by age

Summarised treatment at most recent visit	Age					
	16–24	25–34	35–44	45–54	55 and over	All ages
	%	%	%	%	%	%
No fillings/no extractions	35	32	28	25	32	31
Some fillings/no extractions	43	41	39	37	22	37
Some fillings/some extractions	9	8	10	9	9	9
No fillings/some extractions	13	19	23	28	37	23
Don't know	—	—	—	1	—	—
Total	100	100	100	100	100	100
*Base**	*672*	*773*	*636*	*476*	*495*	*3056*

** See footnote to Table 10.1*

Table 10.4 shows the major type of treatment received on the most recent occasion for dentate adults in different age groups. It can be seen that a higher proportion of the older adults had had an extraction at their last course of treatment, while a higher proportion of the younger adults had had teeth filled, but no extractions.

In the age groups under 55, the proportion of dentate adults who had had neither fillings nor extractions was higher among the younger adults than it was among the older adults. However, among adults aged 55 and over there was a comparatively high proportion who had received neither of these treatments.

Table 10.5 Major type of treatment at most recent visit by dental status

Summarised treatment at most recent visit	Dental status		
	Natural teeth only	Partial dentures	All dentate adults
	%	%	%
No fillings/no extractions	31	31	31
Some fillings/no extractions	40	29	37
Some fillings/some extractions	7	13	9
No fillings/some extractions	21	27	23
Don't know	1	—	—
Total	100	100	100
*Base**	*2150*	*906*	*3056*

** See footnote to Table 10.1*

Table 10.5 examines the extent to which treatment patterns vary for people with partial dentures. A significantly smaller proportion of partial denture wearers had had fillings but no extractions at their last course of treatment, compared with those with natural teeth only, though the proportion of adults who had had neither fillings nor extractions was the same for both the groups. A higher incidence of extractions among partial denture wearers is to be expected, as within this group there will be those who had their first dentures fitted at their most recent course of treatment, as well as those who went for maintenance of existing dentures or treatment of their natural teeth.

In Chapter 9 we saw that there was considerable variation in the number of visits people made to the dentist for one course of treatment, and speculated that this was likely to be due to the varying types of treatment received. We, therefore, look, in Table 10.6 at how the number of visits varied according to the type of treatment received at the most recent occasion.

Among people who had no fillings and no extractions in their most recent dental treatment 78% only made one visit. For some of these people further visits were necessary, maybe for other kinds of treatment such as scaling and polishing if not carried out at the first visit or other treatment such as that involving dentures.

A high proportion of people who had fillings but no extractions made either one or two visits for their last dental treatment. If the first visit was booked as a check-up then the dentist may not be able to carry out the treatment required at the first visit and the patient would have to make subsequent visits to complete the treatment.

Not surprisingly treatment which included both fillings and extractions necessitated the most visits to the dentist with 27% of the adults concerned having to make five or more visits.

Among those adults who received extractions but had no fillings, nearly two thirds made just one visit. Of

Table 10.6 Number of visits in last course of treatment by treatment received, at most recent visits

Number of visits	No fillings/ No extractions	Some fillings/ No extractions	Some fillings/ Some extractions	No fillings/ Some extractions	All dentate adults
	%	%	%	%	%
One visit	78	33	6	62	52
2 visits	13	38	20	19	24
3 visits	5	17	30	8	12
4 visits	2	7	17	6	6
5 or more visits	2	5	27	5	6
Total	100	100	100	100	100
*Base**	*935*	*1130*	*268*	*693*	*3056*

** See footnote to Table 10.1*

Table 10.7 The use of X-rays in England, Scotland, Wales and UK and by region

	Region							Country			
	Northern		Midlands		Southern			England	Wales	Scotland	UK
	North West	North & N East	West Midlands	East Midlands	South West	North Thames	South Thames				
	%	%	%	%	%	%	%	%	%	%	%
Usually has X-ray	7	3	4	8	16	33	29	16	5	4	14
Had X-ray but not usually	41	40	36	39	46	47	50	43	42	40	43
Never had X-ray	52	57	60	53	38	20	21	41	53	56	43
Total	100	100	100	100	100	100	100	100	100	100	100
Base	*365*	*371*	*302*	*364*	*496*	*450*	*413*	*2761*	*363*	*872*	*3262*

course other kinds of treatment might also have been necessary such as the provision of a partial denture which could have necessitated more visits.

10.3 Overall treatment experience

The most recent visit to the dentist obviously gives only one instance of the type of treatment received and it is of interest to know how people's general treatment experiences varied.

When asked about their most recent course of treatment, 20% of dentate adults said that they had had an X-ray on that occasion, but to get a more general picture, all dentate adults were asked *'Have you ever had an X-ray taken of your teeth?'* and, if they had, *'Do you usually have an X-ray taken of your teeth when you go to the dentist?'*

It can be seen from Table 10.7 that there was a large regional variation in the reported incidence of X-rays.

Of the three countries, England had the highest proportion of dentate adults who said they had ever had an X-ray and the northern regions of England were similar in this respect to Scotland and Wales whereas the southern regions showed very high proportions of adults who said they had ever had an X-ray.

The most striking difference in England was found in the proportion of adults who said that they usually had an X-ray where, in the North Thames area 33% of dentate adults said that they usually had an X-ray compared with just 3% in the North and North East.

Table 10.8 Experience of X-rays for different dental attendance patterns

	Attendance pattern		
	Regular check-up	Occasional check-up	Only with trouble
	%	%	%
Usually has X-ray	19	16	8
Had X-ray but not usually	55	46	31
Never had X-ray	26	38	61
Total	100	100	100
Base	*1404*	*444*	*1392*

From Table 10.8, it can be seen that there was a considerable variation between people with different attendance patterns with regard to experience of X-rays for, while 26% of those people who go to the dentist for a regular check-up said that they had never had an X-ray, as many as 61% of those who go to the dentist only when having trouble with their teeth said that they had never had an X-ray taken at the dentists.

Results from the dental examination showed that very few people had no fillings at the time of the survey so it

Table 10.9 Proportion of adults in different age groups who had ever had a filling

	Age					
	16–24	25–34	35–44	45–54	55 and over	All ages
	%	%	%	%	%	%
	Dentate					
Had filling	93	92	89	90	84	90
Had not	7	8	11	10	16	10
Total	100	100	100	100	100	100
Base	*726*	*825*	*684*	*499*	*524*	*3262*
	Edentulous					
Had filling	*	78	75	58	40	47
Had not	*	22	25	42	60	53
Total	—	100	100	100	100	100
Base	*2*	*36*	*101*	*229*	*1008*	*1376*

* *Percentages not given for small base numbers*

was not unexpected to find that 90% of dentate adults said that they had had a filling at some time in their lives. Table 10.9 shows how this proportion varied between different age groups. Within each of the age groups, there was a very high proportion of dentate adults who said that they had, at some time, had a filling but there was also a significantly higher proportion of younger adults, compared with those in the older age groups, who said so.

Table 10.9 also shows, for comparison, the proportion of the edentulous who said that they had ever had a filling. This proportion was much lower than that found among dentate adults but varied considerably between age groups with 78% of edentulous adults aged 25 to 34 having had a filling compared with just 40% among adults aged 55 and over.

10.4 The prevention of pain

When carrying out treatment, a dentist can reduce the pain felt by the patient. During the interview all adults who had ever had a filling were asked whether they had ever had an injection in the gum or in the arm to kill the pain of a filling. Adults who had ever had a tooth extracted were asked whether they had ever had an injection in the gum or in the arm, or if they had ever had gas when having a tooth taken out.

Table 10.10 shows, for those adults who had, at some time, had a filling, the proportion in each age group who said that they had ever had an injection, either in the gum or arm, to prevent pain when having a filling. (Because the treatment experiences of the edentulous and the dentate are very different these two groups are shown separately.)

Overall, the proportion of dentate adults who said that they had had an injection was high (86%) and though a smaller proportion of the older adults said that they had had an injection compared with the younger adults, the highest proportion was found among those aged 25 to 44.

A smaller proportion of the edentulous than the dentate, who had, at some time, had a filling, had had an injection to prevent the pain of a filling. The proportion of these adults with no natural teeth who had had an injection was lower among the older adults than among the younger adults.

Table 10.11 shows, for those dentate adults who had, at some time, had a filling, the proportions in the different attendance pattern groups who said that they had ever had an injection for a filling. A higher proportion of those who were regular attenders said that they had had an injection, compared with those who attended the dentist only when having trouble with their teeth (92% compared with 77%). It was seen in Chapter 3 that on average, regular attenders had more filled teeth than those who attend only when having trouble and this higher experience of fillings obviously gives more opportunity for injections for the regular attenders.

Among those with experience of fillings, the proportion who had had an injection in the gum when having teeth filled was much higher than the proportion who had had an injection in the arm. In fact, only 5% of such adults had ever had an injection in the arm when having a tooth filled.

Dentate adults who said that they had, at some time, had a tooth taken out and all edentulous adults were asked about pain prevention for extractions. Table 10.12 shows that the highest proportion of these adults had been given an injection in the gum to prevent the pain of an extraction. There was also a substantial proportion who had had gas and, as in the case of pain prevention for fillings, a relatively low proportion (13%) had been given an injection in the arm.

Overall there was very little difference between the experiences of the dentate and those of the edentulous. However, in each of the individual age groups a higher proportion of the edentulous than the dentate had had gas or an injection in the arm, while a lower proportion had had an injection in the gum. Many of those who are

Table 10.10 Proportion of adults in different age groups who had, at some time, had a filling who had ever had an injection for a filling

	Age					
	16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
Dentate	86% *673*	91% *775*	89% *607*	84% *446*	76% *437*	86% *2922*
Edentulous	* *2*	76% *28*	74% *75*	62% *134*	52% *411*	58% *651*

Bases include only those adults who said they had ever had a filling
* *Percentages not given for small base numbers*

Table 10.11 Proportions of dentate adults who had, at some time, had a filling, who had ever had an injection for a filling by attendance pattern

	Attendance pattern			All dentate adults
	Regular check-up	Occasional check-up	Only with trouble	
Had injection	92% *1395*	89% *429*	77% *1098*	86% *2922*

Bases include only those adults who said they had ever had a filling currently edentulous would, at some time, have had multiple extractions at one dental visit, so it is not surprising to see that a high proportion of this group said that they had, at some time, had a general anaesthetic (in the form of gas or an injection in the arm) when having teeth extracted.

It is, perhaps, surprising to see that, among dentate adults who had had an extraction a higher proportion of the younger than the older adults, said that they had ever had gas when having a tooth taken out. A possible explanation for this is that, in the past, gas was used, to quite a large extent, when extracting children's teeth. Thus, the younger adults may have been remembering a comparatively recent experience, when answering this question, while the older adults were answering in terms of adult experience.

Table 10.13 shows the regional variations between the proportions of people who had received the different types of pain prevention for extraction. Among dentate adults a higher proportion in the north of the country than in the south had had gas or an injection in the arm for an extraction. These variations were not, however, evident among the edentulous.

10.5 Childhood dental experiences

The foundations of dental treatment are laid in childhood since if teeth are not cared for and restoratively treated, dental decay will cause the loss of permanent teeth even before adult status is reached. We have seen earlier how many of the 'sixes' were missing and it is probable that many of these were lost in childhood. Indeed it has been found that 18% of 15 year olds in 1972 had lost one or both of their lower 'sixes'[1]. We were therefore interested in the dental experiences in childhood and asked all adults whether they had had experience of restorative treatment before the age of sixteen.

The earlier sections of this chapter have looked at the experiences of the dentate adults. However, when looking at childhood dental treatment it is of interest to consider the experiences of all people, that is those with some natural teeth and those who had lost all of their natural teeth.

Table 10.12 **Percentage of adults in different age groups who had at some time had an extraction, who had had gas, an injection in the arm or an injection in the gum for an extraction**

	Age					
	16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	Dentate					
Had gas	75%	77%	66%	62%	53%	68%
Had injection in arm	16%	17%	13%	10%	5%	13%
Had injection in gum	62%	77%	86%	92%	92%	81%
Base†	*615*	*782*	*666*	*492*	*516*	*3075*
	Edentulous					
Had gas	*	84%	82%	73%	64%	67%
Had injection in arm	*	48%	37%	21%	7%	13%
Had injection in gum	*	72%	78%	84%	76%	77%
Base (All edentulous)	*2*	*36*	*101*	*229*	*1008*	*1376*

† *Bases include only those dentate adults who had ever had a tooth extracted*
* *Percentages not given for small base numbers*

Table 10.13 **Proportion of adults, who had, at some time, had an extraction who had had gas, an injection in the arm or an injection in the gum for an extraction, by region and country**

	Region							Country			
	Northern		Midlands		Southern			England	Wales	Scotland	UK
	North West	North & N East	West Midlands	East Midlands	South West	North Thames	South Thames				
	Dentate										
Had gas	79%	73%	70%	65%	64%	58%	67%	68%	76%	68%	68%
Had injection in arm	17%	14%	9%	13%	11%	9%	12%	12%	14%	18%	13%
Had injection in gum	76%	76%	82%	78%	84%	82%	83%	80%	83%	85%	81%
*Base**	*353*	*351*	*280*	*341*	*463*	*412*	*395*	*2595*	*346*	*850*	*3075*
	Edentulous										
Had gas	77%	66%	70%	62%	65%	73%	77%	70%	60%	60%	67%
Had injection in arm	18%	17%	9%	15%	8%	7%	14%	13%	13%	16%	13%
Had injection in gum	78%	71%	72%	79%	77%	79%	78%	76%	88%	81%	77%
Base (All edentulous)	*169*	*200*	*129*	*170*	*185*	*97*	*122*	*1072*	*217*	*548*	*1376*

* *See footnote to Table 10.12*

Although 46% of all adults said that they had had teeth filled before they were 16, there was a substantial difference between the experiences of the dentate and the edentulous. Not only did a much higher proportion of the dentate than the edentulous say that they had had a filling before the age of 16 but also a much higher proportion of the edentulous said that they had not been to the dentist as a child (Table 10.14).

Table 10.14 Experience of fillings before the age of 16 by dental status

'Did you have any teeth filled before you were 16'?	Dentate	Edentulous	All adults
	%	%	%
Teeth filled	56	23	46
Not	30	38	33
Don't know/can't remember	4	3	3
Did not go to dentist as a child	10	36	18
Total	100	100	100
Base	*3262*	*1376*	*4639*

Table 10.15 shows how the experience of fillings before the age of 16 varied for people of different ages among both the dentate and the edentulous. (It should be noted that the oldest adults were having to rely heavily on their memory when answering questions on childhood dental experiences.)

For both the dentate and for those with no natural teeth the proportion of adults who had visited the dentist as a child and the proportion who said that they had had a filling before the age of 16, was higher in the younger age groups than in the older age groups. For those adults aged 45 and over, the proportion of adults in each age group who had visited the dentist as a child and who said that they had had teeth filled was higher among the dentate than among the edentulous.

Table 10.16 shows the regional variations in dental experience before the age of 16, for both the dentate and those with no natural teeth. These results must be interpreted with caution, however, as the area in which a person lived in 1978 was not necessarily the same as the region that they were resident in before the age of 16.

Among both the dentate and the edentulous there was a significantly higher proportion of adults in Scotland who said that they had had teeth filled before the age of 16 compared with either England or Wales. There was also a higher proportion of adults in Scotland than in England who said that they had been to the dentist as a child.

Among the dentate in England it is surprising to see that although a slightly lower proportion in the south than the north of the country had been to the dentist before they were 16, a higher proportion in the south had teeth filled before they were 16.

Among both the dentate and the edentulous the West Midlands had a particularly low proportion of adults who said that they had had teeth filled before they were 16. In Chapter 9, we looked in detail at the attendance patterns of dentate adults. When looking at childhood dental experiences, however, it is interesting to see

Table 10.15 Experience of fillings before the age of 16 by age and dental status

	16–24	25–34	35–44	45–54	55 and over	All ages
	Dentate					
Had filling	81%	66%	48%	42%	27%	56%
Had been to dentist	97%	95%	89%	89%	75%	90%
Base	*726*	*825*	*684*	*499*	*524*	*3262*
	Edentulous					
Had filling	*	61%	52%	35%	15%	23%
Had been to dentist	*	93%	92%	81%	57%	64%
Base	*2*	*36*	*101*	*229*	*1008*	*1376*

* *Percentage not given for small base numbers*

Table 10.16 Experience of fillings before the age of 16 by region and dental status

	Northern		Midlands		Southern			Country			
	North West	North & N East	West Midlands	East Midlands	South West	North Thames	South Thames	England	Wales	Scotland	UK
	Dentate										
Had filling	53%	52%	42%	52%	61%	62%	60%	56%	51%	60%	56%
Had been to dentist	92%	94%	80%	89%	92%	88%	89%	90%	94%	94%	90%
Base	*365*	*371*	*302*	*364*	*496*	*450*	*413*	*2761*	*363*	*872*	*3262*
	Edentulous										
Had filling	24%	19%	17%	21%	28%	23%	26%	22%	22%	27%	23%
Had been to dentist	72%	60%	57%	63%	66%	59%	64%	64%	67%	70%	64%
Base	*169*	*200*	*129*	*170*	*185*	*97*	*122*	*1072*	*217*	*548*	*1376*

whether attendance pattern as a child has any connection with how often an adult visits the dentist. All adults who had been to a dentist, other than the school dentist, before the age of 16 were asked whether as a child they went to the dentist for a regular check-up, an occasional check-up or only when they had trouble with their teeth (Table 10.17).

It is interesting to see that, among the dentate, the experiences of childhood have influenced the regular attenders and those who go to the dentist only when they have trouble in very similar ways.

Of those who attended for a regular check-up as an adult, 59% said that they had attended for a regular check-up as a child whereas 28% of them said that they had attended only when having trouble. Similarly, 59% of those who at the time of the survey attended the dentist only when having trouble with their teeth said that they had a similar attendance pattern as a child while 28% said that they were regular attenders as a child.

A much higher proportion of the edentulous than the dentate said that, as a child, they went to the dentist only when having trouble with their teeth. The edentulous were, on average, older than the dentate, and for many of them, dental services, other than the school dentist, would not have been widely available when they were children.

For those dentate adults who were dentally examined, it can be seen how childhood and adult attendance patterns are related to current dental health. Table 10.18 shows the distributions of missing teeth among dentate adults with different attendance patterns. Those adults who were regular attenders in childhood and who are currently regular attenders were in the most favourable position with regards missing teeth with only 3% having 18 or more teeth missing. Those who attended only when having trouble in childhood and who currently attended only with trouble were in the least favourable position with 25% having 18 or more teeth missing. Of those people whose current attendance pattern differed from their childhood pattern, those who attended regularly as a child but currently attended only when having trouble with their teeth had, on average, fewer missing teeth than those who attended only when having trouble as a child but currently attended regularly.

Table 10.19 shows the distribution of filled (otherwise sound) teeth among dentate adults with different attendance patterns. It would appear that current attendance pattern has the greater impact on the numbers of restored teeth, for the currently regular attenders had, on average, more teeth which were filled (otherwise sound) than those who currently attended only with trouble. Looking at those who currently attended regularly, there was a higher proportion with 12 or more filled (otherwise sound) teeth among those who attended regularly as a child than among those who attended as a child only when having trouble with their teeth. Among those who currently attended only when having trouble with their teeth, there was no difference in the proportions of filled (otherwise sound) teeth between those who had attended regularly as a child and those who had attended only when having trouble with their teeth as a child.

Table 10.17 Attendance pattern as a child by adult attendance pattern for all those who had been to a dentist other than the school dentist as a child

Childhood attendance pattern	Attendance pattern: Regular check-up	Occasional check-up	Only with trouble	Edentulous adults
	%	%	%	%
Regular check-up	59	49	28	18
Occasional check-up	12	24	13	10
Only with trouble	28	27	59	72
Don't know/can't remember	1	—	—	—
Total	100	100	100	100
Base	*940*	*295*	*627*	*468*

Table 10.18 The number of missing teeth by current and childhood dental attendance pattern for dentate adults who were examined and who visited a dentist other than the school dentist, as a child

Number of missing teeth	Attendance pattern: as a child/current pattern: Regular/ Regular	Regular/ With trouble	With trouble/ Regular	With trouble/ With trouble
	%	%	%	%
0	3	5	1	1
1–5	54	43	30	24
6–11	34	34	41	32
12–17	6	7	17	18
18 or more	3	11	11	25
Total	100	100	100	100
Base	*506*	*146*	*236*	*286*

Table 10.19 The number of filled (otherwise sound) teeth by current and childhood dental attendance pattern for dentate adults who were examined and who visited a dentist, other than the school dentist, as a child

Number of filled (otherwise sound) teeth	Attendance pattern: as a child/current pattern			
	Regular/ Regular	Regular/ With trouble	With trouble/ Regular	With trouble/ With trouble
	%	%	%	%
0	1	35	—	32
1–5	10	36	12	34
6–11	33	23	42	22
12 or more	56	6	46	12
Total	100	100	100	100
Base	*506*	*146*	*236*	*286*

10.6 Preferences for treatment

Although the type of treatment a person receives is very much the dentist's decision, a person may have an influence if he has a preference for a certain type of treatment. Throughout this report, the importance of restoration rather than extraction has been stressed so it is important to know whether people in general prefer extractions or fillings. All dentate adults were asked *'If you had an aching tooth would you prefer it to be filled or extracted?'* and, as the position of the tooth was likely to affect their answer, they were asked the question separately for a front and a back tooth.

Not unexpectedly a higher proportion of adults preferred a filling for an aching front tooth than an aching back tooth and, in both cases, the preference for fillings was higher among the younger age groups than among the older age groups (Table 10.20).

Table 10.20 Proportion of dentate adults in different age groups who would prefer an aching tooth to be filled rather than extracted

	Age					
	16–24	25–34	35–44	45–54	55 & over	All ages
Front tooth	90%	86%	82%	76%	67%	81%
Back tooth	74%	70%	64%	59%	50%	65%
Base	*726*	*825*	*684*	*499*	*524*	*3262*

A high proportion of the regular attenders displayed a preference for a filling rather than extraction, and there was no difference between the views of the men and the women regular attenders. However, though there was a much lower proportion preferring fillings among those who attend only when having trouble with their teeth, a higher proportion of women than of men of this attendance pattern said that they would prefer an aching tooth to be filled, the difference being greatest in the case of a front tooth (Table 10.21).

Table 10.21 Proportion of dentate adults who would prefer an aching tooth to be filled rather than extracted, by sex and attendance pattern

	Regular check-up			Only with trouble		
	Male	Female	Both sexes	Male	Female	Both sexes
Front tooth	93%	94%	94%	63%	72%	67%
Back tooth	85%	84%	84%	41%	43%	42%
Base	*583*	*821*	*1404*	*812*	*580*	*1392*

Of course, a preference for a certain type of treatment does not necessarily mean that the preferred treatment is that which the dentist will be able to provide. However, for those adults who had been dentally examined, we had information on the amount of conservative and extractive work that had been performed on their teeth.

Table 10.22 shows that, to a large extent, people had received the treatment that they said they preferred, or told us that they preferred the treatment that they had received.

Reference

[1] Todd *Children's dental health in England and Wales 1973* HMSO 1975.

Table 10.22 Preference for fillings and extractions by the number of teeth found to be missing and filled at the survey examination

	Prefer front tooth to be		Prefer back tooth to be	
	Extracted	Filled	Extracted	Filled
Proportion with 12 or more filled* teeth	5%	35%	10%	39%
Proportion with 12 or more missing teeth	54%	22%	44%	19%
Base	*428*	*2316*	*686*	*1855*

* *Filled (otherwise sound)*

11 The cost of dental treatment and type of service

11.1 The type of service at the last course of treatment
Since 1948, people have had the opportunity to receive dental treatment, usually at a subsidised cost, through the National Health Service. However, though this service is available, not everybody receives their dental treatment under the NHS. In the first part of this chapter, we look mainly at the people who received their last course of dental treatment privately but, of course, private treatment and NHS treatment are not the only forms of service available. Treatment can be obtained at a dental hospital, through the community service and through the Armed Forces. All dentate adults who had ever been to the dentist and all edentulous adults who had been to the dentist in the last ten years were asked what type of service they had used at their last course of treatment. The results are shown in Table 11.1.

Table 11.1 Type of service at last course of treatment by dental status

Type of service	Natural teeth only	Partially dentured	All dentate	Edentulous*
	%	%	%	%
NHS	83	82	83	84
Private	10	12	10	12
NHS and Private	1	3	1	1
Community Dental Service	1	—	1	—
Armed Forces	1	—	1	—
Dental Hospital	2	1	2	2
Don't know	2	2	2	1
Total	100	100	100	100
Base	*2283*	*958*	*3241*	*812*

* *who had attended in the last ten years.*

The vast majority of both the dentate and of the edentulous (who had been to the dentist in the previous ten years) had received their last course of treatment under the NHS and there were no significant differences between the three dental status groups, in the distribution of the different types of services used at the last course of treatment. Overall, 10% of dentate adults and 12% of edentulous adults (who had attended the dentist in the last ten years) said that their last course of treatment had been wholly private and a further 1% of both groups had received both NHS and private treatment at their last dental visit.

Table 11.2 shows the regional variations and the variations between the social class groups in the proportion of adults whose last course of treatment had been wholly private.

Among dentate adults there was a significantly higher proportion of people in England than in Scotland whose last course of treatment had been wholly private, and within England the regions with the highest proportions of dentate adults whose last course of treatment was private were those of the Midlands and the North Thames. Among the edentulous (who had been to the dentist in the last ten years), however, it was the North West and the South Thames areas that had the highest proportions whose last course of treatment had been private.

With regard to social class, there were no significant differences between the proportions of dentate adults from the three social class groups whose last course of treatment had been private. Among the edentulous, however, there was a significantly higher proportion of adults from Social Class I, II and III non-manual whose last course of treatment had been private, compared with those from Social Class III manual.

Looking solely at the dentate adults it can be seen that there was a significantly higher proportion of adults who attend the dentist only when having trouble with

Table 11.2 Private treatment at the last course of treatment by region, country and social class

Proportion whose last course of treatment was wholly private	Region							Country			
	Northern		Midlands		Southern			England	Wales	Scotland	UK
	North West	North & N East	West Midlands	East Midlands	South West	North Thames	South Thames				
Dentate	6% *365*	8% *370*	16% *298*	13% *359*	7% *493*	18% *447*	10% *411*	11% *2743*	11% *361*	6% *868*	10% *3241*
Edentulous*	15% *105*	8% *118*	9% *67*	12% *90*	11% *108*	12% *62*	25% *75*	13% *625*	7% *133*	9% *339*	12% *812*

	Social Class		
	I, II, IIIN	IIIM	IV, V
Dentate	10% *1221*	12% *1044*	11% *559*
Edentulous*	16% *222*	10% *275*	10% *178*

* *who had attended in the last ten years*

their teeth whose last course of treatment was private, compared with those who attend for a regular check-up (Table 11.3). This finding is somewhat in contrast to the stereotyped idea of the kind of person who has private treatment and leads to an examination of the kind of treatment that was received privately by dentate adults with different attendance patterns (Table 11.4).

Table 11.3 Private treatment at the last course of treatment for dentate adults by attendance pattern

	Attendance pattern			Dentate adults
	Regular check-up	Occasional check-up	Only with trouble	
Proportion whose last course of treatment was wholly private	6%	10%	15%	10%
Base	*1404*	*444*	*1392*	*3242*

Table 11.4 Type of treatment received by dentate adults whose last course of treatment had been wholly private

Type of treatment	Attendance pattern		All dentate adults whose last course of treatment was private*
	Regular check-up	Only with trouble	
Extractions	10%	75%	51%
Fillings	53%	21%	32%
Scale and polish	64%	21%	38%
New dentures fitted	4%	14%	12%
Old dentures repaired	1%	3%	3%
Other	8%	2%	4%
Base	*91*	*207*	*340*

** Includes occasional attenders not shown elsewhere on the table*

The table shows that there was a considerable variation in type of private treatment received by the regular attenders and those who attend only when having trouble with their teeth. Only 10% of regular attenders whose last course of treatment was private had teeth extracted on that occasion compared with 75% of those who attend only when having trouble with their teeth.

Thus, as was seen in the results of the 1968 Dental Health Survey[1], the majority of dentate adults were not attending privately to receive treatment that is outside the normal scope of NHS treatment. In fact, the high proportion of irregular attenders who had teeth extracted suggests that a major part of private treatment is for the relief of pain. The kind of treatment provided for a considerable number of those who availed themselves of private treatment was not the kind often thought of as private, that is the more complex and possibly cosmetic forms of conservation.

Dentate adults who had received their last course of treatment privately were asked their main reasons for having the treatment done privately. The main reason, given by 38% of dentate adults was that they wanted the treatment done quickly. The proportion of adults giving this as a reason varied considerably between people with different attendance patterns with only 18% of regular attenders saying that they had private treatment because they wanted treatment quickly, compared with 52% of those who attend only when having trouble with their teeth (Table 11.5). This high proportion among the irregular attenders is consistent with the earlier suggestion that private treatment was sought, by those people, mainly for the relief of pain.

Table 11.5 Reasons for having treatment done privately for dentate adults

'What was the main reason for you having this treatment done privately?'	Dentate adults whose last course of treatment was obtained privately		
	Regular attenders	Only with trouble	All*
Wanted treatment quickly	18%	52%	38%
Dentist will not do treatment on NHS	35%	7%	15%
Better quality treatment	23%	8%	14%
Treatment not available on NHS	6%	7%	11%
Always go privately/ Don't believe in NHS	13%	5%	6%
Didn't think eligible for NHS	1%	3%	3%
Base	*91*	*207*	*361*

** Includes occasional attenders not shown elsewhere on the table*

Table 11.6 The cost of treatment for dentate adults who had visited the dentist in the last two years whose last course of treatment was private

Cost of treatment	Dentate adults who had visited the dentist in the last two years whose last course of treatment was private		
	Regular attenders	Only with trouble	All*
	%	%	%
Nothing	3	3	3
Under £2	5	9	7
£2 less than £5	16	31	22
£5 less than £7	17	19	18
£7 less than £10	9	4	6
£10 less than £20	16	5	12
£20 and over	16	20	19
Don't know	18	9	13
Total	100	100	100
Base	*89*	*100*	*227*

** Includes occasional attenders not shown elsewhere on the table*

Table 11.6 shows, for those dentate adults whose last course of treatment had been provided privately, the amount they had paid for this treatment. (Because prices change over time, the analysis of this cost has been confined to adults who had visited the dentist in the previous two years.)

It can be seen that, although there was no difference in the proportions of regular and irregular attenders who had paid £20 or more for their private treatment, on the whole the regular attenders had paid more for their treatment than those who attend only when having trouble with their teeth. (Of those regular attenders, 58% had paid £5 or more for their treatment compared with 48% of those who attend only when having trouble with their teeth.) The high proportion of irregular attenders who had paid less than £5 for their private treatment is further evidence that a large section of this group were attending privately for the relief of pain. Of the edentulous adults who had visited the dentist in the last ten years, 12% said that their last course of treatment had been wholly private. The type of treatment provided for these adults was, obviously, not as varied as that provided for the dentate in that, for the majority of them, the last course of treatment was the provision or maintenance of dentures.

Table 11.7 Reasons for having private treatment given by edentulous adults who had visited the dentist in the last ten years and whose last course of treatment had been private

'What was the main reason for you having this treatment privately?'	Edentulous adults who had visited the dentist in the last ten years whose last course of treatment had been private
Wanted it quickly	19%
Dentist will not do treatment on NHS	6%
Better quality treatment	34%
Treatment not available on NHS	5%
Always go privately/ Don't believe in NHS	9%
Didn't think eligible for NHS	4%
Base	*99*

Table 11.7 shows the reasons given by these edentulous adults, for having their treatment privately.

The reason given by the highest proportion of this group of the edentulous was that they thought that they got better quality treatment privately.

Earlier, the cost of private treatment for the dentate was examined. Costs can only realistically be compared over a short time period and too few of the edentulous whose last course of treatment had been private, had visited the dentist in the past two years, to make analysis of the cost of their treatment possible.

11.2 The cost to the patient of NHS treatment

National Health Service dental treatment is available free to certain sections of the community while others pay a contribution towards the cost of the treatment.

At the time of the survey, a person paid the full cost of each item of treatment (excluding dentures) up to a maximum charge of £5. Certain treatments such as dentures, crowns and bridges cost more than £5. There was no charge for a dental examination, the arrest of bleeding or repairs to dentures. Dental treatment was free for pregnant and nursing mothers, and people under 21, while full remission of charges was available for people on low incomes, on application through the appropriate channels.

Table 11.8 shows the cost paid, for treatment, by adults whose last course of treatment was under the NHS. (Again, for reasons of increasing costs over time, the analysis is limited to those who visited the dentist in the previous two years.)

Overall, 36% of these adults said that they had received their treatment free and 26% said that they had paid under £5 for it. There was a considerable difference between the dentate and the edentulous, with only 6% of the former group paying £10 or more for their treatment compared with 47% of the latter.

Table 11.8 The cost of NHS treatment to adults who had visited the dentist in the last two years and whose last course of treatment was under the NHS

Cost of treatment to patient	Dentate adults			Edentulous adults	All
	Regular check-up	Only with trouble	All*		
	%	%	%	%	%
Nothing	37	33	36	39	36
Under £2	11	5	9	1	8
£2 less than £5	18	20	19	3	18
£5 less than £7	19	17	18	3	17
£7 less than £10	1	2	1	3	1
£10 less than £20	3	9	5	44	9
£20 and over	1	3	1	3	1
Don't know	10	11	11	4	10
Total	100	100	100	100	100
Base	*1256*	*457*	*2046*	*202*	*2248*

* *Includes the occasional attenders not shown elsewhere on the table*

Among the dentate there was a lower proportion of the regular attenders than those who attend only when having trouble, who paid £10 or more for their treatment, although the difference was not so marked as that between the dentate and the edentulous.

Those adults who had received their last course of treatment free under the NHS were asked why they had not had to pay for their treatment.

Table 11.9 Reasons for free treatment for adults who had visited the dentist in the last two years and whose last course of treatment was free under the NHS

Reasons for free treatment	Dentate adults			Edentulous adults	All
	Regular check-up	Only with trouble	All*		
No treatment	41%	10%	31%	10%	29%
Under 21, pregnant or nursing mother	50%	52%	52%	6%	48%
State assisted	5%	24%	10%	44%	13%
Repair of denture	—	2%	1%	18%	3%
Base	*468*	*150*	*729*	*78*	*807*

* *See footnote to Table 11.8*

The reasons given are shown in Table 11.9, for those adults who had received their last course of treatment free under the NHS and who had visited the dentist in the previous two years.

About one half of all these adults said that they had not had to pay because they were under 21, pregnant or a nursing mother. The fact that the edentulous are, on average, older than the dentate is reflected in the fact that only 6% of the edentulous gave this as the reason that their treatment was free, compared with 52% of the dentate. The reason given by the highest proportion of the edentulous (44%) was that they had had State assistance for their dental charges.

Among dentate adults who had visited the dentist within the last two years and whose last course of treatment was free under the NHS, a much larger proportion of the regular attenders than those who attend only when having trouble with their teeth, said that they had not had to pay because they had had no treatment at their last visit.

11.3 Knowledge of dental charges

During the interview all adults were asked about their knowledge of National Health Service dental charges. Table 11.10 shows the proportions of people who said that they normally had some idea of how much their dental treatment was going to cost them and the proportion who said that they knew where they could find out about NHS charges.

Table 11.10 **Knowledge of costs for the dentate adults by attendance pattern and for the edentulous (who had visited the dentist within the last ten years)**

	Dentate adults			Edentulous adults†
	Regular check-up	Only with trouble	All dentate adults*	
Proportion who have some idea of what their treatment will cost	40%	25%	33%	27%
Proportion who know where they can find out about charges	45%	37%	41%	40%
Base	*1404*	*1392*	*3242*	*812*

** Includes occasional attenders not shown elsewhere on the table*
† Who had visited the dentist in the last ten years

A higher proportion of dentate adults than the edentulous said that they normally had some idea of how much their treatment would cost them when they visited the dentist and, among dentate adults, a higher proportion of regular attenders said they had some idea of the cost, compared with those who attend the dentist only when having trouble with their teeth. There was also a higher proportion of regular attenders than irregular, who said that they knew where they could find out about dental charges. Of all those adults who said that they knew where they could find out about dental charges, 68% said they could find out about them from the dentist, 30% said they could find out from the Social Services and 11% said they could find out about charges from the Post Office.

As well as finding out about knowledge of charges in general, we were interested to know if people knew the charges for specific items of treatment. All dentate adults and all edentulous adults (who had visited the dentist in the last ten years) were given a card listing the following items of treatment:

Exam, 2 teeth out
Exam, 1 large filling, 1 tooth out
Examination only

Table 11.11 **Knowledge of charges for items of treatment in 1978**

Dentate adults	Exam 2 teeth out	Exam 1 large filling 1 tooth out	Exam only	Exam 2 X-rays S and P 1 small filling	Exam 4 teeth out New dentures	Exam 2 X-rays 6 teeth out Gas	Repair of cracked denture	Exam 2 X-rays S and P
Regular attenders	%	%	%	%	%	%	%	%
Overestimate	31	25	35	38	—	85	77	21
Correct	62	57	60	42	90	7	5	50
Underestimate	1	11	—	12	2	—	—	21
Don't know	6	7	5	8	8	8	18	8
Total	100	100	100	100	100	100	100	100
Base	*1404*	*1404*	*1404*	*1404*	*1404*	*1404*	*1404*	*1404*
Only with trouble								
Overestimate	28	23	45	42	—	76	73	30
Correct	56	45	38	31	80	7	5	38
Underestimate	2	17	—	10	4	1	—	15
Don't know	14	15	17	17	16	16	22	17
Total	100	100	100	100	100	100	100	100
Base	*1392*	*1392*	*1392*	*1392*	*1392*	*1392*	*1392*	*1392*
Dentate adults*								
Overestimate	29	24	40	40	—	81	76	26
Correct	60	51	49	37	86	7	5	44
Underestimate	1	14	—	11	3	1	—	18
Don't know	10	11	11	12	11	11	19	12
Total	100	100	100	100	100	100	100	100
Base	*3242*	*3242*	*3242*	*3242*	*3242*	*3242*	*3242*	*3242*
Edentulous adults*								
Overestimate	25	18	41	44	—	66	61	35
Correct	48	37	30	20	70	4	9	27
Underestimate	2	15	—	5	3	1	—	7
Don't know	25	30	29	31	27	29	30	31
Total	100	100	100	100	100	100	100	100
Base	*812*	*812*	*812*	*812*	*812*	*812*	*812*	*812*

** See footnotes to Table 11.10*

Exam, 2 X-rays, scale and polish, 1 small filling
Exam, 4 teeth out, new dentures fitted
Exam, 2 X-rays, 6 teeth out, gas
Repair of cracked denture
Exam, 2 X-rays, scale and polish

They were asked to say whether they thought each of these treatments was free, would cost them £2 or less, between £2 and £5 or £5 or more.

One person answered correctly for all of the treatments mentioned and Table 11.11 shows for the dentate and the edentulous, whether people had overestimated or underestimated the cost of the treatments to patients.

The treatment for which the highest proportion of both the dentate and the edentulous knew the charge was the fitting of new dentures with 86% of the dentate and 70% of the edentulous correctly saying that this treatment would cost £5 or more. A very low proportion of adults knew the cost of having an examination, 2 X-rays, 6 teeth out and gas, or the cost of having a cracked denture repaired.

One half of dentate adults and 30% of the edentulous knew that an examination alone was free under the National Health Service.

Overall, a higher proportion of edentulous than the dentate said that they did not know the charges for the treatments mentioned and on the whole, a higher proportion of the dentate knew the correct cost of treatments.

Among dentate adults a higher proportion of those who attend only with trouble, compared with the regular attenders, said that they did not know the charges for the treatments and, in the majority of cases, a higher proportion of the regular attenders knew the correct costs.

As well as asking people if they knew the charges for specific items of treatment, they were also asked if they knew what types of treatment cost the patient more than £5 (the maximum for NHS treatment in most cases at the time of the survey).

Overall, 62% of dentate adults and 57% of edentulous adults (who had visited the dentist in the previous ten years) said that they knew what type of treatment cost the patient more than £5. Of these people, 74% said that dentures and large scale extractions would cost more than £5, 52% said that crowns, bridges or gold fillings would cost more than £5 and 44% gave a variety of other answers, including treatment for gums, braces and cosmetic work.

It was seen earlier that about one third of adults whose last course of treatment was under the National Health Service had received free treatment and it is of interest to see how aware people were of the availability of free treatment under the NHS.

Table 11.12 Knowledge of free treatment under the NHS

'Do you know what kinds of people get free treatment?'	Dentate adults			Edentulous adults†
	Regular check-up	Only with trouble	All dentate adults*	
	%	%	%	%
Yes	90	83	87	80
No	10	17	13	20
Total	100	100	100	100
Base	*1404*	*1392*	*3242*	*812*
'What kinds of people get free treatment?'				
Old age pensioners	70%	70%	70%	58%
Pregnant or nursing mothers	62%	45%	54%	36%
People on Social Security	30%	33%	31%	37%
Other financially disadvantaged groups	26%	36%	31%	30%
People under 16	45%	38%	42%	29%
People under 18	6%	5%	6%	4%
People under 21	19%	12%	16%	9%
Base	*1266*	*1148*	*2812*	*647*

* † *See footnotes to Table 11.10*

Overall, 87% of the dentate and 80% of the edentulous (who had been to the dentist in the previous ten years) said that they knew who could get free treatment (Table 11.12). Among the dentate, a higher proportion of those who attend for a regular check-up, than those who attend only when having trouble with their teeth said that they knew who could get free treatment.

Table 11.12 also shows the sections of the community that people thought received free treatment. The answers given in reply to the question *'What kinds of people get free treatment?'* were spontaneous and not prompted in any way by the interviewer. A consequence of this is that young people have been divided into three separate groups—under 16, under 18 and under 21, according to how a person answered the question.

The largest single group that was spontaneously mentioned as receiving free treatment was old age pensioners. In fact, this group does not automatically get free dental treatment, although they are able to claim remission of charges if they are on a low income. Among the other groups named, a higher proportion of the dentate than the edentulous said that children under 16 and pregnant or nursing mothers were eligible for free treatment. Pregnant and nursing mothers have been eligible for free treatment since the introduction of National Health dental charges and it is perhaps surprising that a higher proportion of adults did not mention this group.

11.4 Attitudes towards dental charges

In this final section, we look at people's attitudes towards dental charges—both in the specific case of their last course of treatment and more generally about their attitude towards NHS charges.

Adults who had paid for their last course of treatment were asked whether the treatment had cost them more they expected, about what they expected or less than they expected and Table 11.13 shows the results for those people whose most recent visit had been under the National Health Service.

The majority of both the dentate (60%) and the edentulous (who had visited the dentist in the previous ten years) (66%) said that their treatment had cost them about what they had expected. A slightly higher proportion of the dentate than the edentulous said that their treatment had cost more than they expected while among dentate adults there were no statistically significant differences between the answers given by people with different attendance patterns.

Table 11.13 **Whether most recent treatment cost the patient more or less than expected (NHS treatment only)**

'Did the treatment cost you. . .'	Dentate adults			Edentulous adults†
	Regular check-up	Only with trouble	All dentate adults*	
	%	%	%	%
More than you expected	19	22	19	12
About what you expected	61	57	60	66
Less than you expected	16	17	17	17
Don't know	4	4	4	5
Total	100	100	100	100
Base	*622*	*589*	*1348*	*366*

* † *See footnotes to Table 11.10*

It is interesting to see, for all those who said that they paid for their last course of treatment, whether the amount they paid affected the answers they gave to the question about what they expected to pay (Table 11.14).

Among both the dentate and the edentulous there is a slight indication that those who paid a higher price for their treatment paid more than they expected. In general, for each of the price ranges under £20, a higher proportion of the dentate than the edentulous said they had paid more than they had expected for treatment. For example, 21% of the dentate who had paid between £5 and £10 said that they paid more than they had expected compared with just 6% of the edentulous.

Finally, in this chapter, we look at people's attitudes towards £5 as the normal maximum charge for NHS treatment (Table 11.15). On the whole, people seemed satisfied with this charge with 71% of both the dentate and the edentulous saying that this was about right and 8% of both groups saying it was too low.

Table 11.14 **The cost to the patient of dental treatment by whether it was more or less than expected**

'Did the treatment cost you. . .'	Cost of the last course of treatment				
	Under £5	£5 less than £10	£10 less than £20	£20 or more	All who paid*
	%	%	%	%	%
	Dentate				
More than you expected	18	21	26	21	20
About what you expected	60	62	52	62	60
Less than you expected	18	13	18	14	16
Other answers	4	4	4	3	4
Total	100	100	100	100	100
Base	*860*	*510*	*169*	*59*	*1637*
	Edentulous†				
More than you expected	12	6	13	21	14
About what you expected	57	69	69	56	64
Less than you expected	23	20	13	20	17
Other answers	8	5	5	3	5
Total	100	100	100	100	100
Base	*41*	*142*	*164*	*67*	*448*

* *Includes those who could not remember how much they paid*
† *Who had visited the dentist in the last ten years*

Table 11.15 **Attitude towards £5 as a maximum charge for NHS treatment**

'As a maximum charge do you think that £5 is . . .'	Dentate adults			Edentulous adults†
	Regular check-up	Only with trouble	All dentate adults*	
	%	%	%	%
Too high	18	25	21	19
About right	73	68	71	71
Too low	9	6	8	8
Don't know	—	1	—	2
Total	100	100	100	100
Base	*1404*	*1392*	*3242*	*812*

* † *See footnotes to Table 11.10*

Among the dentate adults, it is interesting to note that, compared with the regular attenders, a higher proportion of those who attend only when having trouble, thought that £5 was too high as a maximum charge. It may be that this charge discourages these people from attending the dentist, although it is possible that these people have a very casual attitude towards dental health and would thus be more likely to express dissatisfaction with any scale of dental fees.

Reference

[1] Grey *et al Adult dental health in England and Wales in 1968* HMSO 1970.

12 Full dentures

12.1 Introduction

When people lose their natural teeth and have a denture to replace them, they face many problems or potential problems that are totally unknown to people who rely completely on their natural dentition. A major part of the interview for all people with a denture of any kind was concerned with these problems, and though similar questions were asked of both the edentulous and the partially dentured we examine these two groups separately as their experiences are likely to be different, as not only do the partially dentured consist of people with very varied kinds of dentures, but they also have the extra problem of wearing dentures in conjunction with their natural teeth. The edentulous are, from a dental viewpoint at least, a homogeneous group and it is the problems and denture wearing habits of this group that are examined in this chapter.

12.2 The wearing of full dentures

It would be wrong to assume that all those people who were edentulous were full denture wearers. Among people who had no natural teeth 2% had, in fact, never had a full set of dentures while a further 3% had been provided with them, but never wore them. A further 12% of the edentulous wore their dentures for part of the day. The vast majority (83%) did, however, have full dentures which they wore all day. Among the minority who had dentures which they did not always wear it was more frequently the case that the upper denture was worn and the lower denture was not (in fact, none of the edentulous who did not wear both dentures all day, wore only the lower denture). There was no variation in these denture wearing habits between people of different ages, region or sexes but Table 12.1 shows that a higher proportion of the top social class group wore their dentures all day, compared with the other two groups.

Although there were very few people who did not wear their dentures we were interested to know why these people did not do so. Those who had not worn either their top or bottom plate in the previous four weeks were asked *'Have you still got your top plate (bottom plate)?'* and if they had, *'Why do you not wear your top plate (bottom plate)?'* In answering the first question, 29% of the relevant adults said that they no longer had their upper plate and 68% said they no longer had their lower plate. The number of people who had a plate that they did not wear was too small for detailed analysis but the main reasons that they gave for not wearing their dentures were that the denture hurt, that it was too loose or, particularly in the case of upper dentures, it made the informant feel sick.

It was seen earlier that some of the edentulous had dentures, which they wore sometimes but not all day and Table 12.2 shows the proportions of these people who said that they wore their dentures either when they went out, when they were eating or when they were about the house. The small base numbers result in their being no statistically significant difference between the

Table 12.2 Denture wearing habits for those who wore dentures but not all day

'Do you usually wear your top plate (bottom plate) when you . . .'	Proportion who wore:	
	Top plate	Bottom plate
Go out	97%	95%
Are eating	49%	54%
Are about the house	12%	23%
Base	*64*	*86*

Table 12.1 Denture wearing habits of the edentulous by social class

Wearing habits		Social class			
Upper denture	Lower denture	I, II, IIIN	IIIM	IV, V	All*
		%	%	%	%
Never had	Never had	1	1	2	2
Never worn	Never worn	1	4	4	3
Never worn	Sometimes/always worn†	—	—	—	—
Sometimes/always worn	Never worn	3	7	7	6
Sometimes worn	Sometimes worn	2	3	4	4
Sometimes worn	Always worn	—	—	—	—
Always worn	Sometimes worn	2	2	3	2
Always worn	Always worn	91	83	80	83
Total		100	100	100	100
Base		*359*	*453*	*371*	*1376*

* *Includes housewife, student and unclassifiable persons not included elsewhere*
† *Always = all day*

wearing habits for upper and lower dentures. The vast majority of these people wore their dentures when they went out and about half of them wore them when they were eating. Smaller proportions (12% in the case of upper dentures and 23% in the case of lower dentures) wore their dentures when they were about the house. When these people who did not wear their dentures all day were asked why they did not do so, their answers were very similar to the answers given by those people who were asked why they never wore their dentures at all (see above).

Table 12.3 Edentulous adults in different age groups who had worn either or both of their plates in the previous four weeks, who kept their dentures in at night

'Do you usually keep your top plate (bottom plate) in at night?'	Age				
	16 – 44	45 – 54	55 – 64	65 and over	All ages
	%	%	%	%	%
Top plate					
In at night	80	62	56	45	54
Not in at night	20	38	44	55	46
Total	100	100	100	100	100
Base	*136*	*220*	*346*	*611*	*1314*
Bottom plate					
In at night	71	58	49	36	47
Not in at night	29	42	51	64	53
Total	100	100	100	100	100
Base	*126*	*205*	*325*	*577*	*1234*

If a person wears their dentures all day, it is likely that those dentures are satisfactory from the point of view of the wearer, and cause few major problems. The decision about wearing dentures at night, however, although obviously affected by aspects such as the fit of the dentures, may also be influenced by other factors including habit. Table 12.3 shows the proportions of edentulous adults in different age groups who had worn either or both of their plates in the previous four weeks and who keep either their upper or lower denture in at night.

Overall, 54% of these adults wore their upper denture at night and a significantly lower proportion of 47% wore their lower denture at night. For both upper and lower dentures, a smaller proportion of older adults wore their dentures at night compared with the younger adults. Among adults aged 16 to 45 there was a very high proportion who wore their dentures at night with 80% wearing their upper denture at night and 71% wearing their lower denture.

12.3 Denture cleaning

Cleaning dentures does not, obviously, have the same implications for an individual's dental health as does cleaning the natural teeth but it is nevertheless still important from the point of view of dental hygiene. In this section, we look at the denture cleaning habits of those people with no natural teeth who had worn either of their plates in the previous four weeks. Table 12.4 shows the frequency of denture cleaning for different age groups. The 'other' category mainly consists of people who cleaned their dentures less than once a day. The majority of people of all ages who had worn either of their plates in the previous four weeks, cleaned their dentures once a day, and a higher proportion of the younger adults cleaned their teeth more than once a day compared with the older adults (27% of the relevant adults aged 16 – 44 cleaned their dentures more than once a day compared with 18% of those aged 65 or more).

Table 12.4 How often cleans dentures by age

'How often do you clean your false teeth?'	Age				
	16 – 44	45 – 54	55 – 64	65 and over	All ages
	%	%	%	%	%
More than twice a day	3	4	5	4	4
Twice a day	24	22	18	14	18
Once a day	49	54	63	65	61
After meals	1	2	3	5	3
Other specified times	23	18	11	12	14
Total	100	100	100	100	100
*Base**	*136*	*220*	*346*	*612*	*1315*

* *Excludes those who have never had or who never wear full dentures*

Table 12.5 How cleans dentures by age

Cleans dentures by:	Age				
	16 – 44	45 – 54	55 – 64	65 and over	All ages
	%	%	%	%	%
Soaking	19	23	20	16	19
Brushing	36	31	23	27	28
Soaking and brushing	44	44	54	55	51
Other	1	2	3	2	2
Total	100	100	100	100	100
*Base**	*136*	*220*	*346*	*612*	*1315*

* *See footnote to Table 12.4*

One half of these denture wearers cleaned their dentures by both soaking and brushing them. This method was more common among the older adults whereas a higher proportion of the younger adults cleaned their dentures only by brushing them, compared with the older adults (Table 12.5). When those adults who soaked their dentures were asked what they soaked them in, 78% answered that they soaked them in a denture cleaner, 20% soaked them in bleach, 6% soaked them in plain water and 1% soaked them in salt water. When a similar question was asked of those who brushed their dentures, 35% said they brushed them with an ordinary toothpaste or powder, 31% brushed them with plain water, 26% brushed them with a denture cleaner, 10% brushed them with soap and 3% gave some other answer such as the fact that someone else brushed their dentures for them so they did not know what was used. (Some denture wearers used more than one method of soaking or brushing their dentures and thus the above percentages are not additive.)

12.4 Difficulties with dentures

It has been seen that a small proportion of the edentulous either do not wear dentures at all or do not wear them all day, for a variety of reasons. However, even those people who do always wear their dentures may have difficulties with them. During the interview all those adults who wore either of their plates all day were asked whether they had any difficulties with their dentures in certain specified situations (Table 12.6). The situation that caused the most difficulties was biting into a raw apple where one in three of the relevant adults said they did, or would have, difficulties if they attempted this. The proportions who had difficulties with the other mentioned situations were much lower but in the case of yawning or chewing meat, a higher proportion said that this caused difficulties for their lower denture than for the upper denture.

As well as the fact that certain situations might cause difficulties for denture wearers, the dentures themselves might cause problems in that they do not fit properly or cause soreness in the mouth. Those denture wearers who wore either plate all day, were asked whether they felt that their dentures were too loose or too tight. They were also asked if the plate(s) that they wore all day had hurt or caused soreness in the previous four weeks.

Table 12.6 Difficulties with dentures for those who wore either or both their plates all day

Proportion who have had difficulty with their dentures when:	Top plate	Bottom plate
Biting into a raw apple	32%	34%
Chewing meat	8%	16%
Talking	6%	6%
Yawning	5%	8%
Base	*1250*	*1148*

Table 12.7 The fit of dentures and whether they hurt or cause soreness for those people who wore either or both their plates all day

Proportion whose dentures:	Top plate	Bottom plate
Are too loose	13%	26%
Are too tight	—	1%
Have hurt or caused soreness in previous four weeks	5%	17%
Base	*1250*	*1148*

Again it appears that lower dentures cause more problems than upper dentures. A quarter of those who wore their lower denture all day said that this denture was too loose and 17% said that it had hurt or caused soreness in the previous four weeks. The comparable proportions for upper dentures were 13% and 5% (Table 12.7).

Of all those people who said that they had some kind of difficulty or problem connected with wearing their dentures, only 20% said they were planning to visit the dentist, either about that problem or for any other reason, while 80% said that they had no plans to do so. This latter group were asked *'Is there any reason why you aren't planning to visit the dentist?'* Over half of this group said that the problem that they had mentioned did not bother them (Table 12.8). The cost of treatment was mentioned as a reason for not visiting the dentist by 13% of the relevant adults while 18% said that they thought that nothing could be done about their problem.

Table 12.8 Reasons for not visiting the dentist for those who had difficulties with their dentures

'Is there any reason why you aren't planning to visit the dentist?'	Denture wearers who wear either or both jaw dentures all day who had difficulties with dentures but were not planning to visit the dentist
The problem doesn't bother me	53%
Don't think anything can be done	18%
Costs too much	13%
Haven't got a dentist/ difficult to get to the dentist	8%
No reason	15%
Other specified answer	4%
Base	*653*

12.5 Dental advice

If a dentist gives a patient advice about dentures it may be that some of the problems and difficulties described above could be avoided. In the interview, people who had lost the last of their natural teeth within the previous ten years were asked whether they had received dental advice on various aspects of denture wearing (these questions were not asked of people who had lost their teeth more than ten years previously because of memory difficulties).

Table 12.9 shows the proportions of these people in the different countries who had been given advice on a selection of topics. There is no major indication that any one country was in a significantly better position than any other with regard to dental advice, and in each of the countries a similar proportion of denture wearers said they would have liked some advice or some additional advice from the dentist.

Table 12.9 Dental advice for those people in England, Wales, Scotland and UK who had become edentulous between 1968 and 1978

Proportion who had been given dental advice on:	Country			
	England	Wales	Scotland	UK
Chewing with dentures	20%	10%	20%	19%
Biting with dentures	17%	19%	22%	18%
Cleaning dentures	31%	21%	32%	30%
How long dentures would last	6%	7%	12%	7%
How long it would take to get used to dentures	30%	33%	44%	32%
Wearing dentures at night	41%	29%	31%	39%
Proportion who would have liked (more) advice	30%	29%	34%	30%
Base	*203*	*42*	*105*	*263*

Of the people who had lost the last of their natural teeth in the previous ten years, 39% had been given advice by their dentist on whether or not to wear their dentures at night. It is interesting to see that of the 72% who were advised to keep their dentures in at night 72% kept their upper denture in at night and 63% their lower denture.

Of the 16% who were advised to take their dentures out at night, the proportion who wore their dentures at night was only 13% for both the upper and lower dentures. Thus it appears that in this instance people tended to follow dental advice though, to some extent perhaps, a person's current practice may have affected his memory of the advice he was given.

12.6 Problems associated with the provision of dentures

General difficulties and problems associated with the wearing of full dentures are described above but there are problems that a person has to face when he first receives dentures that may differ from these day-to-day difficulties. All those people who had lost the last of their natural teeth in the previous ten years and who had been provided with full dentures were asked *'Was there anything in particular about wearing full dentures that you hadn't expected?'* Of these people, 42% said there had been something unexpected and the responses of these people to the further question *'What was it?'* are shown in Table 12.10. (It should be noted that these were spontaneous answers given by one section of the total population of full denture wearers.)

Table 12.10 Unexpected experiences on first having full dentures

What was unexpected	Those who had become edentulous between 1968 and 1978 who said that there was something unexpected about wearing full dentures
Mouth felt full	32%
Difficulties with eating	28%
Soreness/ denture didn't fit properly	27%
Difficulties with speaking	15%
Lack of taste in food	10%
Felt sick	7%
Difficulty in putting in or removing plates	2%
Other specified answer	17%
Base	*105*

Although answers relating to the inability to taste food were given by 10% of this group, we were interested in this topic and all people who had become edentulous between 1968 and 1978 were asked *'Since you've had full dentures have you enjoyed your food more than before, about the same as before or less than before you had them?'* Of those people who had become edentulous in the previous ten years, 58% said that they enjoyed their food the same as before, 28% said they enjoyed it less than before and 14% said they enjoyed it more than before they had dentures.

12.7 The appearance of dentures

In the earlier sections of this chapter we have described problems associated with the wearing of full dentures. In this final section we look at another aspect of denture wearing, which is often a major concern for the denture wearer—that is, the appearance of the dentures. In previous sections, where we asked people to remember back to the occasion when they first received dentures, we confined the analyses to those people who had become edentulous in the previous ten years. In this section, however, it is more appropriate to include all full denture wearers as they are all likely to have some opinion about the appearance of their dentures.

In answer to a question about an individual's satisfaction with the appearance of their dentures, 80% said they were very satisfied, 14% said they were fairly satisfied, 4% said they were not very satisfied and only 2% said that they were not at all satisfied with the appearance of their dentures.

Table 12.11 Reasons for not being completely satisfied with the appearance of dentures by age

'What is it about their appearance that you are not completely satisfied with?'	Age				
	16 – 44	45 – 54	55 – 64	65 and over	All ages
Do not look natural	25%	25%	19%	12%	18%
Dull/faded/ don't like colour	10%	21%	16%	16%	16%
Some teeth broken/ fallen out	4%	16%	10%	20%	15%
Teeth too small/short	15%	14%	10%	17%	14%
Teeth too big/ long	5%	5%	5%	6%	5%
Alter shape of mouth	22%	6%	16%	11%	13%
Other specified answers	9%	8%	12%	7%	9%
Base	*34*	*53*	*66*	*117*	*270*

Those people who did not say that they were very satisfied with the appearance of their dentures were then asked why they were not completely satisfied. It can be seen from Table 12.11 that a wide range of answers were given, none of which stands out as a major reason why, in general, people were not satisfied with the appearance of dentures. Comparing the youngest and oldest age groups, a higher proportion of the younger adults said that their dentures did not look natural, while a higher proportion of the oldest adults gave the fact that their dentures were broken as a reason for not being satisfied with their appearance.

12.8 Conclusions

In this chapter we have looked at several aspects pertaining to full denture wearing. It appears that in general, full denture wearers had few problems concerning their dentures. A very high proportion wore their dentures all day and a very low proportion reported any problems, with the exception of the one third who said that they did or would have problems if they bit into a raw apple. Not only did full denture wearers appear to cope with comparative ease with their dentures, but also a very high proportion of them were satisfied with the appearance of their dentures.

13 Partial dentures

13.1 Introduction

In the previous chapter the problems of denture wearing, and denture wearing habits, were described for those people who had no natural teeth. Similar information to that gathered from the edentulous was also collected from the other group of denture wearers—that is, those adults who were partially dentured* and retained some natural teeth. In this chapter, therefore, we describe the problems and denture wearing habits of this group and, in addition, look at the different types of partial dentures that had been provided. The denture history of this group, however, is not presented in this chapter but is included in Chapter 15, wich describes the dental history of all denture wearers.

13.2 Denture pattern

The pattern of dentures that a partially dentured person has can be a full denture for one jaw opposed by natural teeth, a full denture opposed by a partial denture or partial dentures only in one or both jaws.

The most common type of denture was a partial upper denture which was worn† by 65% of the partially dentured, and most commonly, a partial upper denture was opposed by natural teeth (Table 13.1).

Full lower dentures were not common and were, in fact, worn by only 2% of the partially dentured.

There was a heavier involvement with dentures in the older age groups where there was a much higher proportion with full upper dentures compared with the younger adults, and also a higher proportion with dentures in both jaws. (For example, 63% of those aged 65 and over had a denture of some type in both jaws, compared with only 11% of those aged 16 to 24.)

A full upper or lower denture necessitates the removal of all the natural teeth in that jaw and in Volume 1[1] of this report we saw that there had been a decrease in the incidence of these full jaw clearances in England and Wales between 1968 and 1978. However, from Table

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* It should be noted that whereas in dental terms a denture is defined as full or partial for either jaw, we define a partially dentured person as anyone with any combination of dentures apart from a full upper and full lower set (who would of course be edentulous).

† For convenience, in this section, we refer to people wearing partial dentures if they have been provided with them.

Table 13.1 Partial denture patterns for people in different age groups

Denture pattern		Age						
Upper	Lower	16 – 24	25 – 34	35 – 44	45 – 54	55 – 64	65 and over	All ages
		%	%	%	%	%	%	%
Full	None	4	11	12	16	17	12	14
Full	Partial	4	7	13	14	25	29	16
Partial	Partial	7	12	16	27	24	28	21
Partial	None	79	66	54	37	28	22	43
None	Partial	6	4	4	4	4	3	4
Partial	Full	—	—	1	1	1	6	1
None	Full	—	—	—	1	1	—	1
Total		100	100	100	100	100	100	100
Base		*46*	*143*	*203*	*245*	*205*	*113*	*958*

Table 13.2 Partial denture patterns for people in England, Scotland, Wales and the English Regions

Denture pattern		Region							Country			
		Northern		Midlands		Southern			England	Wales	Scotland	UK
Upper	Lower	North West	North & N East	West Midlands	East Midlands	South West	North Thames	South Thames				
		%	%	%	%	%	%	%	%	%	%	%
Full	None	20	16	11	17	10	5	13	13	19	22	14
Full	Partial	14	12	19	14	21	15	17	16	15	17	16
Partial	Partial	15	18	18	24	24	31	25	23	19	10	21
Partial	None	46	45	44	43	40	38	40	42	43	48	43
None	Partial	4	6	8	1	3	7	2	4	4	3	4
Partial	Full	1	2	—	1	1	2	2	1	—	—	1
None	Full	—	1	—	—	1	2	1	1	—	—	1
Total		100	100	100	100	100	100	100	100	100	100	100
Base		*100*	*101*	*89*	*96*	*155*	*132*	*119*	*792*	*112*	*303*	*958*

13.2 it can be seen that there was considerable variation between the three countries in the proportion of partially dentured people with a full upper denture. The lowest proportion was found among the partially dentured in England and the highest among those in Scotland.

Among the partially dentured within England, the south of the country had a higher proportion of people with partial dentures in both jaws than the north and there was also a slightly lower prevalence of full upper clearances in that part of the country, particularly in the North Thames area where only 20% of partial denture wearers had a full upper denture compared with 34% in the North West.

Table 13.3 Denture pattern for people with different attendance patterns

Denture pattern		Attendance pattern			
Upper	Lower	Regular check-up	Occasional check-up	Only with trouble	All
		%	%	%	%
Full	None	7	15	19	14
Full	Partial	6	14	25	16
Partial	Partial	25	23	17	21
Partial	None	56	44	33	43
None	Partial	5	3	3	4
Partial	Full	1	1	2	1
None	Full	—	—	1	1
Total		100	100	100	100
Base		*367*	*126*	*465*	*958*

Table 13.3 shows that those people who currently attend the dentist only when having trouble with their teeth were more likely to have had full clearances of one jaw than the regular attenders, among whom was a high proportion of people with partial dentures in both jaws, and in the upper jaw only.

13.3 The wearing of partial dentures

As noted above, for convenience we have called people partial denture wearers if they had been provided with partial dentures whether or not they actually wore them. In this section we look at the denture wearing habits of these people who had been provided with partial dentures.

In the United Kingdom as a whole 70% of the partially dentured wore the dentures that they had been provided with all day and a further 5% wore them for some of the day (Table 13.4). Of people who had been provided with dentures, 12% never wore them, 12% had been provided with both upper and lower plates but wore only the upper plate, and just 1% had been provided with both plates and wore only the lower plate.

A higher proportion of the partially dentured in Scotland than in England wore the dentures that they had been provided with all day. Within England, there was little clear regional variation in the denture wearing habits of the partially dentured but there was a comparatively high proportion of adults in the East Midlands area who wore their dentures with, in fact, only 4% never wearing the denture set that they had been provided with.

In Table 13.5, we look at the denture wearing habits of the partially dentured, according to the type of denture that had been provided. It appears that the most acceptable type of denture was a full upper denture opposed by natural teeth, for, of those who had this type of denture, 92% wore them all day and only 3% did not wear them at all. Those people who had solely a partial upper denture, also appeared to find them acceptable with 79% wearing their denture all day and a further 5% wearing them for part of the day.

Table 13.4 Denture wearing patterns for the partially dentured by region and country

Denture wearing habits	Region							Country			
	Northern		Midlands		Southern			England	Wales	Scotland	UK
	North West	North & N East	West Midlands	East Midlands	South West	North Thames	South Thames				
	%	%	%	%	%	%	%	%	%	%	%
Had upper and lower denture—wears neither	4	6	1	—	4	3	4	3	1	2	3
Had upper denture—does not wear	9	7	8	4	11	8	6	8	6	6	7
Had lower denture—does not wear	1	3	3	—	1	4	1	2	—	—	2
Had upper and lower denture—wears upper	10	8	9	12	19	12	8	12	16	10	12
Had upper and lower denture—wears lower	1	1	—	—	1	1	2	1	—	—	1
Wears what has been provided some of the day	4	10	8	5	2	5	3	5	5	6	5
Wears what has been provided all day	71	65	71	79	62	67	76	69	72	76	70
Total	100	100	100	100	100	100	100	100	100	100	100
Base	*100*	*101*	*89*	*96*	*155*	*132*	*119*	*792*	*112*	*303*	*958*

Table 13.5 The wearing of dentures by partially dentured persons in relation to the type of denture

Denture wearing habits	Denture pattern					
	Full upper No lower	Full upper Partial lower	Partial upper Partial lower	Partial upper No lower	No upper Partial lower	All*
	%	%	%	%	%	%
Had upper and lower denture—wears neither	—	—	14	—	—	3
Had upper denture—does not wear	3	—	—	16	—	7
Had lower denture—does not wear	—	—	—	—	42	2
Had upper and lower denture—wears upper	—	39	25	—	—	12
Had upper and lower denture—wears lower	—	1	1	—	—	1
Wears what has been provided some of the day	5	4	6	5	12	5
Wears what has been provided all day	92	56	54	79	46	70
Total	100	100	100	100	100	100
Base	*131*	*157*	*202*	*414*	*38*	*958*

* *Includes those with denture patterns not shown separately on the table*

Just over one half of those people who had dentures in both jaws wore their complete denture set all day and among these people the upper denture was worn by a higher proportion than the lower denture. Of those people with a full upper denture and a partial lower denture, 39% wore only the upper denture while just 1% wore only the lower denture. Similarly, among those people with partial dentures in both jaws, 25% wore only the upper denture and just 1% wore only the lower denture. A comparatively high proportion (42%) of those people who had been provided with just a partial lower denture, never wore their dentures. Thus it can be seen that, as was found in the previous 1968 study, upper dentures are much more acceptable to a person than lower dentures.

All those people who had been provided with either a top or bottom plate but had not worn it in the previous four weeks were asked *'Have you still got your top (bottom) plate?'* and 36% replied that they no longer had their top plate while 31% said that they no longer had their bottom plate. For those people who still had a plate but who did not wear it, the reasons they gave for not wearing it are shown in Table 13.6.

The most common reasons given were either that the dentures hurt or were uncomfortable or that the individual was just generally dissatisfied with their dentures. There was very little difference between the reasons given for not wearing a top plate and the reasons given for not wearing a bottom plate.

Table 13.6 Reasons for not wearing dentures for the partially dentured

'Why don't you wear your top (bottom) plate?'	Those who had still got a top (bottom) plate but who had not worn it in the previous four weeks	
	Top plate	Bottom plate
Hurt/uncomfortable	43%	44%
Not satisfied (in general)	36%	34%
Makes informant feel sick	10%	6%
Too loose	6%	10%
Too tight	3%	1%
Broken	5%	2%
Replaced by fixed appliance	3%	—
Base	*69*	*108*

In the previous chapter we looked at the denture wearing habits of the edentulous who wore dentures but not all day. In the case of the partially dentured, however, too few adults fulfilled this criterion to make analysis possible.

13.4 Denture cleaning

In Chapter 6 when we looked at the care that people take of their natural teeth, the partially dentured were included in the section on cleaning teeth as contributing to the dentate population. In this section, we look at their dental hygiene from the aspect of denture cleaning.

For those people who had a partial denture and who were dentally examined, we have information about the cleanliness of their denture as the dental examiner indicated whether or not there was any debris, calculus or staining on the plates.

Overall, for those adults with partial dentures who were dentally examined, the level of denture hygiene was high, with only 16% of these adults having a denture that was classified as unsatisfactory by the dentist (Table 13.7).

Table 13.7 Denture hygiene by frequency of denture cleaning

Denture hygiene	How often cleans dentures			
	Once a day	Twice a day	Three or more times a day	All*
	%	%	%	%
Satisfactory	83	86	90	84
Not satisfactory	17	14	10	16
Total	100	100	100	100
Base	*267*	*183*	*63*	*573*

* *Includes those who did not specify how often they cleaned their dentures*

13.5 Difficulties with partial dentures

In this section we look at the day to day difficulties associated with denture wearing for the partially dentured. We had already asked those people who did not wear their dentures all day about their problems and so these particular questions were asked only of those people who said that they wore either or both of their denture plates all day.

All these people were asked whether they did, or would have, difficulties associated with their dentures in certain specified situations (Table 13.8). Only a small proportion of denture wearers reported any problems with their dentures when they yawned or talked and a slightly higher proportion said that they did or would have difficulties chewing meat. As we saw in the last chapter when we looked at full denture wearing, the situation which caused the most difficulty was biting into a raw apple, and this appeared to cause more problems associated with the upper denture than the lower denture.

As well as any problems that people may have associated with their dentures, we were also interested in the fit of partial dentures and how comfortable the wearers found them. All those partial denture wearers who wore their dentures all day, were asked *'Would you say that your top plate (bottom plate) is too loose, about right, or too tight?'* and, also whether, during the previous four weeks, their plate(s) had hurt or made their mouth sore.

Table 13.8 Problems associated with denture wearing for the partially dentured who had been provided with a plate which they wore all day

Proportion who have difficulty with their dentures when:	Top plate	Bottom plate
Biting into a raw apple	23%	16%
Chewing meat	12%	13%
Talking	6%	3%
Yawning	4%	7%
Base	*603*	*187*

Table 13.9 The fit of dentures and whether they hurt or cause soreness for those people who wore either or both their plates all day

Proportion whose dentures:	Top plate	Bottom plate
Are too loose	19%	15%
Are too tight	—	1%
Had hurt or caused soreness in previous four weeks	6%	11%
Base	*603*	*187*

Table 13.9 shows the proportions of people who wore either or both of their plates who thought that their dentures were too loose or too tight and those who said that their plate had hurt or caused soreness in the previous four weeks. None of those people who wore their upper denture said that they thought that it was too tight and only 1% of those who wore their lower denture said that the plate was too tight. A higher proportion thought that the plate(s) they wore were too loose—19% in the case of upper plates and 15% for lower plates. The table also shows that a higher proportion of denture wearers reported soreness or pain associated with a lower denture than was the case for upper dentures.

Table 13.10 Reasons for not visiting the dentist given by those who had difficulties with their partial dentures

'Is there any reason why you aren't planning to visit the dentist?'	Those who had problems with their partial dentures but who were not planning to visit the dentist
Doesn't bother me	55%
Nothing can be done	19%
Cost too much	3%
Don't have a dentist	2%
No reason	14%
Base	*353*

Those people who had difficulties or problems associated with their partial dentures were asked *'Are you planning to visit the dentist to see about your denture(s) for that or any other reason?'*. Of these people, only 33% said that they were planning to visit the dentist and Table 13.10 shows the reasons given by those people who had a problem with their dentures but who were not planning to visit the dentist. The major reason for not visiting the dentist appeared to be the fact that the difficulties reported in association with denture wearing did not bother the individuals, while 19% said they were not planning to visit the dentist because they did not think that the dentist would be able to do anything about the problem. As well as looking at the problems or difficulties that the partially dentured had associated with their dentures, we were also interested in problems concerning wearing dentures in conjunction with the natural teeth. All those dentate adults who had ever had a partial denture were asked *'Since having partial dentures have you had any trouble with your natural teeth which you feel is connected with having dentures?'*.

Table 13.11 Difficulties with the natural teeth for the partially dentured with different denture patterns

'Since having partial dentures have you had any trouble with your natural teeth which you feel is connected with having dentures?'	Current denture pattern					
	Upper	Full	Full	Partial	Partial	All*
	Lower	None	Partial	Partial	None	
		%	%	%	%	%
Had trouble		12	32	29	27	26
Not		88	68	71	73	74
Total		100	100	100	100	100
Base		*131*	*157*	*202*	*414*	*958*

* *Includes those people who had denture patterns other than those shown in table who were too small in number to be analysed separately.*

A quarter of those who had been provided with partial dentures said that they had had problems with their natural teeth which they felt was connected with having dentures (Table 13.11). Those people who had just a full upper denture appeared to have the least problems with

Table 13.12 Dental advice for those people in different age groups who had been provided with a partial denture

Proportion who had been given dental advice on:	Age 16–24	25–34	35–44	45–54	55–64	65 and over	All ages
Chewing with dentures	19%	9%	13%	12%	11%	11%	12%
Biting with dentures	17%	9%	13%	12%	11%	7%	12%
Cleaning dentures	32%	20%	27%	20%	21%	18%	22%
Time dentures would last	6%	6%	7%	6%	6%	4%	6%
Time to get used to dentures	30%	47%	37%	33%	40%	24%	36%
Wearing dentures at night	34%	38%	34%	30%	34%	29%	33%
Proportion who would have liked (more) advice	49%	42%	40%	35%	35%	20%	36%
Base	*46*	*143*	*203*	*245*	*205*	*113*	*958*

their natural teeth connected with their dentures, while those who had dentures in both jaws and those who had partial plates had, perhaps not surprisingly, experienced more problems with their natural teeth connected with denture wearing.

13.6 Dental advice

When people are provided with partial dentures initially, they will, as we have seen earlier, have to face problems and difficulties that were not relevant to them when they relied solely on natural teeth. It is interesting, therefore, to see whether people had been given advice by the dentist about their dentures, when they were first provided with them.

All those dentate adults who had been provided with partial dentures were asked whether the dentist had given them any advice on a range of topics (Table 13.12). About one third of the partially dentured had been given advice on how long it would take to get used to their dentures and on wearing their dentures at night. A much lower proportion had been given advice on any of the other mentioned topics and 36% of the partially dentured said that they would have liked some advice or some additional advice.

From another part of the interview it can be seen whether those people who were given advice by the dentist about wearing their dentures at night, were following the advice. Overall, 63% of partial denture wearers who had an upper denture kept it in at night and 52% of those with a lower denture kept that denture in at night. However, of those people who were advised by their dentist to keep their dentures in at night, 84% of those who had an upper denture wore it at night and 73% of those who had a lower denture wore that plate at night. Of those who had been advised by the dentist to take their dentures out at night, 41% of those with an upper denture kept it in at night and 35% of those with a lower denture kept that plate in at night.

13.7 The appearance of partial dentures

Finally, in this chapter, we look at the attitude of those people with partial dentures towards the appearance of their dentures. All those who had been provided with a partial denture of any kind were asked how satisfied they were with the appearance of their dentures, and Table 13.13 shows the response to this question, according to the type of partial denture that had been provided. Overall, there was a high level of satisfaction with the appearance of the dentures with 77% of partial denture wearers saying that they were very satisfied with the appearance and only 2% saying that they were not at all satisfied. These attitudes did not vary a great deal according to the type of denture provided, although a slightly higher proportion of those who had been provided with just a full upper jaw denture said that they were very satisfied with the appearance of their dentures compared with those who had been provided with other types of dentures.

Table 13.13 Satisfaction with appearance of partial dentures by denture pattern

'How satisfied are you with their (your denture's) appearance; are you . . .	Denture pattern *Upper*	Full	Full	Partial	Partial	All*
	Lower	None	Partial	Partial	None	
		%	%	%	%	%
Very satisfied		86	76	78	76	77
Fairly satisfied		9	16	11	16	14
Not very satisfied		5	6	5	5	5
Not at all satisfied		—	2	4	1	2
Does not apply†		—	—	2	2	2
Total		100	100	100	100	100
Base		*131*	*157*	*202*	*414*	*958*

* *See footnote to Table 13.11*
† *Dentures in posterior segments only*

Table 13.14 Reasons for not being very satisfied with the appearance of partial dentures

'What is it about their appearance that you are not completely satisfied with?'	Partial denture wearers who did not say that they were very satisfied with the appearance of their teeth
Do not look natural	16%
Dull, faded, don't like colour	19%
Some teeth broken or fallen out	12%
Teeth too small or short	13%
Teeth too big or long	7%
Alter shape of mouth	8%
Other answers	11%
Don't know	6%
Base	*193*

Those people who did not say that they were very satisfied with the appearance of their dentures were further asked *'What is it about their appearance that you are not completely satisfied with?'*.

Again as was seen in the previous chapter when a similar question was asked of the edentulous, a wide variety of reasons were given for not being completely satisfied with the appearance of the dentures, and no single reason was mentioned by more than one fifth of those who answered this question (Table 13.14).

13.8 Conclusions

In the following chapter we will look in more detail at the types of partial denture that had been provided but in this chapter we have seen that, of the seven basic types of denture pattern possible among the partially dentured, the most common pattern was a partial denture in the upper jaw opposed by solely natural teeth.

We have also seen that a high proportion of those people who had been provided with partial dentures, wore them, although this proportion was not as high as the proportion of the edentulous who wore full dentures.

Partial denture wearers appear to experience few problems concerned with denture wearing and, also, the majority appear to be very satisfied with the appearance of their dentures. In these respects they are similar to the other section of denture wearers, those who wear full dentures, whose circumstances were examined in the previous chapter.

Reference

[1] Todd and Walker *Adult dental health Volume 1 England and Wales 1968 – 1978* HMSO 1980.

14 Partial dentures and denture need

14.1 Introduction

In the earlier sections of the previous chapter, we described the denture pattern of those adults who had some natural teeth, but who had been provided with a partial denture. The results were analysed according to the type of partial dentures that had been provided, which were classified as either full or partial for each jaw. The information necessary for this classification was available from the partially dentured who were interviewed. However, for those people with partial dentures who were both interviewed and dentally examined, we were able to record much more extensive information about the types of dentures that were worn. As well as information about the dentures we have information for dentate adults who were examined about any gaps in their dentition which had not been filled by a denture. In this chapter, we use the additional information from the examination, firstly, to make a more detailed analysis of the types of partial dentures that had been provided, and then, to estimate the proportions of partially dentured adults who were in need of more extensive denture work, and the proportion of adults who relied completely on their natural dentition who were, possibly, in need of a denture of some type.

14.2 Denture type

During the dental examination of the partially dentured, the dentist recorded, for each jaw, whether the denture, if present, was full or partial. Of the upper dentures seen, one third were full and two thirds were partial. Of the lower dentures, only 4% were full and 96% were partial.

Also, during the dental examination, the dentist recorded for each denture, whether the major component of the denture was plastic or metal (excluding those whose only metal components were clasps). Of the full plates seen by the dentist, 95% of upper dentures were made of plastic and 5% were made of metal, and all of the full lower dentures seen were made of plastic. Of the partial upper dentures, 87% were made of plastic and 13% were made of metal. Similarly, among lower partial dentures, 88% were made of plastic and 12% of metal.

Information was also collected for each partial denture as to whether it was toothborne, tissueborne or both. Of the partial upper dentures seen, the vast majority (91%) were tissueborne, while only 4% were toothborne and 5% both tooth and tissueborne. In the case of lower partial dentures, 89% were tissueborne, 3% were toothborne and 8% were both tooth and tissueborne.

Of all the partial dentures that were tissueborne, 5% were made of metal and 95% were made of plastic. Of the partial dentures that were both tooth and tissueborne 87% were made of metal and 13% of plastic. There were only 23 partial dentures that were solely toothborne and, of these, 17 were made of metal and 6 were made of plastic.

At the dental examination, the number of margins covered by a denture was recorded. Where a denture plate covers the margin of a tooth, it may effect the soft tissues around that tooth and lead to gingivitis or other forms of gum trouble. Ideally, therefore, a partial denture should cover none, or very few margins. Table 14.1 shows the number of margins covered for both the upper and lower partial plates seen at the dental examination.

Table 14.1 Number of margins covered by partial dentures

Number of margins	Upper denture	Lower denture
	%	%
0	4	5
1–2	9	19
3–4	22	18
5–6	25	21
7–8	26	23
9 or more	14	14
Total	100	100
Base	*444*	*223*

Only a very small proportion of partial dentures (4% in the case of upper dentures and 5% in the case of lower dentures) covered no margins, and 14% of both upper and lower dentures covered 9 or more margins. There was a significantly higher proportion of lower jaw dentures than upper jaw dentures that covered two or fewer margins.

There were too few partial dentures that were either toothborne or both tooth and tissueborne, and too few that were made of metal, to permit a detailed analysis of the number of margins covered by the type of partial denture. However the results showed that partial dentures that were toothborne or both tooth and tissueborne covered, on average, less margins than tissueborne partial dentures, and that metal partial dentures covered, on average, less margins than partial dentures made of plastic.

14.3 Partial denture plates

In previous chapters, we have classified partial denture wearers by whether the denture plates that they had were full or partial. In this section, we look in more detail at the partial dentures to see the different types that had been provided, using information provided by the dental examination.

The types of partial dentures that are provided vary considerably and so, to perform any meaningful analyses, a method of grouping the data about each individual plate must be employed. In this section, we use a method broadly based on the Kennedy classification of dentures. Under this classification, partial dentures are grouped into four major classes and then further grouped within each class according to certain characteristics. These classes are explained in detail below, and also summarised in Table 14.2.

Table 14.2 Classification of partial denture plates

Class I	Two free-ended saddles
Modification 1	Class I plus one bounded saddle
Modification 2	Class I plus two bounded saddles
Modification 3	Class I plus three or more bounded saddles
Class II	One free-ended saddle
Modification 1	Class II plus one bounded saddle
Modification 2	Class II plus two bounded saddles
Modification 3	Class II plus three or more bounded saddles
Class III	One bounded saddle on one side of mouth
Modification 1	Two bounded saddles
Modification 2	Three or more bounded saddles
Class IV	One bounded saddle to the anterior of attachments

Class I dentures are those with two free-ended saddles, one on either side of the mouth, lying posterior to the remaining natural teeth. There are three modifications in this class; modification 1 includes those denture plates which, in addition to the two free-ended saddles, have one bounded saddle; modification 2 includes those dentures with two free-ended saddles and two bounded saddles; modification 3 includes denture plates with two free-ended saddles and three or more bounded saddles.

Class II dentures are those with a free-ended saddle on one side of the mouth only, lying posterior to the remaining natural teeth. Similar modifications to those used in Class I are present in Class II dentures so that a Class II modification 1 would include dentures with one free-ended and one bounded saddle, Class II modification 2 includes dentures with one free-ended and two bounded saddles and Class II modification 3 includes dentures with one free-ended and three or more bounded saddles.

Class III dentures are those with one bounded saddle only, on one side of the month we have used two modifications to this class. Class III modification 1 are those dentures with two bounded saddles and Class III modification 2 are those dentures with three or more bounded saddles.

Class IV dentures are those with a single bounded saddle lying entirely anterior to the attachments. There are no modifications to this class.

Table 14.3, shows the distribution of the different types of partial dentures seen at the dental examination looking first at dentures to replace teeth in the upper jaw, it can be seen that about one half (49%) of these dentures were of type Class III—that is with bounded saddles only. Only 3% of upper plates had just one bounded saddle on one side of the mouth, but 24% had two bounded saddles (Class III modification 1) and 22% had three or more bounded saddles (Class III modification 2).

Table 14.3 The types of denture plates seen at the dental examination

Classification	Upper		Lower	
	%		%	
Class I	5	14%	42	54%
Modification I	5		10	
Modification 2	3		2	
Modification 3	1		—	
Class II	1	19%	2	26%
Modification 1	8		16	
Modification 2	7		7	
Modification 3	3		1	
Class III	3	49%	1	16%
Modification I	24		10	
Modification 2	22		5	
Class IV	18		4	
Total	100		100	
Base (unweighted)	*550*		*244*	

Of the upper dentures seen, 19% were grouped in Class II (one free-ended saddle) and, as in the case of Class III dentures, the majority of Class II dentures were modified by having bounded saddles in addition to the one free-ended saddle.

Class IV dentures (those that consisted of one bounded saddle to the anterior of the attachments) accounted for 18% of all upper partial dentures.

The least common class of upper plates was Class I (two free-ended saddles) which accounted for 14% of all upper partial dentures. In fact, only 5% consisted of just two free-ended saddles to the posterior of the natural teeth while 9% were modified by having, in addition, bounded saddles elsewhere in the jaw.

In the lower jaw, the distribution of the different types of partial dentures was very different from that found in the upper jaw.

Over half (54%) of all lower partial dentures were of type Class I and, unlike the situation in the upper jaw, the vast majority of these were unmodified. It can be seen that 42% of all lower partial dentures consisted of two free-ended saddles, one on each side of the jaw to the posterior of the remaining natural teeth, and no further denture work elsewhere in the jaw.

Class II dentures accounted for 26% of the partial lower dentures and most common among these were Class II modification 1, which were those having a free-ended saddle on one side of the mouth and one bounded saddle elsewhere.

Class III dentures, which were the most common form of upper partial dentures, accounted for just 16% of lower partial dentures and Class III denture plates with no modifications (one bounded saddle only on one side of the mouth) were rare, accounting for only 1% of all lower partial dentures.

Only 4% of lower jaw partial dentures consisted of one bounded saddle to the anterior of the attachments (Class IV). In fact, generally, it can be seen that the major difference between upper and lower dentures was that bounded saddles were more common among the upper partial dentures and free-ended saddles more common among the lower partial dentures.

14.4 Denture need

At the point of delivery of any type of dental treatment, a wide range of circumstances is, of course, taken into account by the dentist when reaching a decision as to what form of treatment is most appropriate. However, when analysing survey data one is obviously restricted to those aspects of the situation which were included in the dental examination. Any criteria for denture need must, therefore, be based on the information collected at the dental examination so that it can be applied systematically across the whole sample, but, of course, in real life other considerations will play a part in the dentist's decision over denture treatment, not least the fact that only those people who present themselves for treatment can be assessed for denture need.

In the first national Adult Dental Health Survey[1] in 1968 an analysis was conducted into unmet denture need. From the dental examination, information was available about which teeth were missing but no information was available about whether, at the time of the examination, a missing tooth had been replaced by a denture or whether the remaining teeth had moved so that a space no longer existed at the tooth position. Neither did the 1968 analysis take account of potential denture need as a result of advanced periodontal involvement.

When the 1972 Scottish Adult Dental Health Survey[2] was planned, the criteria for gum condition included a tooth by tooth measurement of whether extraction was needed for periodontal trouble, but no information was collected about whether individual missing teeth had been replaced by a denture, or whether the remaining teeth had moved to close the gap.

In the 1978 Survey, information was collected about each tooth position as to whether, if a tooth was missing, it had been replaced by a denture or whether a space still remained at that position. However, since the periodontal assessment was carried out on a segment basis rather than tooth by tooth, no specific information was collected by which an estimate can be made of whether any teeth needed extraction for periodontal reasons.

Our starting point, therefore, for the 1978 analyses of denture need is the information collected about tooth spaces in the mouth for which a denture had not been provided.

A denture in either jaw may be full, that is to replace all 16 teeth, or partial, to replace just some of the natural teeth. Thus, initially, we defined two types of denture need for each jaw—full denture need and partial denture need. We defined a person as in need of a full denture in a jaw, if all the teeth in that jaw were missing or unrestorably decayed. In the case of partial denture need, two criteria were formulated, one for jaws in which there were solely natural teeth and one for jaws in which a partial denture had already been provided. In the first case, that of a jaw containing solely natural teeth, we defined denture need as present if either one anterior tooth was missing, and a space remained at that tooth position or if there were spaces at three adjacent posterior tooth positions. In the case of jaws in which a partial denture was already present, we defined a need for a more extensive partial denture if any additional tooth was missing and there was a space, which had not been replaced by a denture, at that position.

By combining data for both jaws we were able to make an estimate of the denture need for each of the dentate adults who were examined.

We looked first at the most extreme form of denture need, the need for full dentures in both jaws of the people examined, only four were categorised in this way, according to our definition. Two of these relied completely on their natural dentition while the other two had natural teeth only in the lower jaw opposed by a full upper denture. Our criteria for need for full clearance were very stringent and it is likely that people other than those covered by our definition, would become edentulous in the months after the survey. Indeed, some teeth are, of course, extracted for reasons of gum disease rather than reasons of decay. As described above we did not obtain detailed information about the gum condition of each tooth, however we expanded our definition of full denture need to include, in addition to the requirement that all teeth be missing or unrestorably decayed, jaws in which all segments were affected with periodontitis. A person was thus defined as possibly being in need of full dentures if both his jaws fulfilled either of these conditions, or a mixture of the two. With this expanded definition, 59 of those people who relied completely on their natural dentition met the new criteria as did 132 people with partial dentures. As the introduction of the severest measure of gum disease we could apply caused such a large change in the numbers included, we looked in more detail at the dental examination charts of these 191 people. It was immediately obvious that periodontitis recorded, was in many cases in segments or whole mouths where the majority of the natural teeth were present and, indeed sound and untreated or filled (otherwise sound).

Without any, more detailed, knowledge about the gum condition of these adults it would clearly be inappropriate to estimate any upper limit of the number of dentate adults who would probably become edentulous in the near future we, therefore, confine ourselves to the lower limit based on the stricter definition of full denture need, that is, all the natural teeth missing or unrestorably decayed. We turn next to look at the need for partial dentures among those people who relied completely on their natural dentition and those who already had a denture of some type using the criteria explained above.

Table 14.4 Partial denture need for dentate adults who were dentally examined

Current status/Denture need	Dentate adults who were examined
	%
Natural teeth only/no unmet denture need	60 } 73%
Partial denture wearers/no unmet denture need	13
Natural teeth only/unmet denture need	12 } 27%
Partial denture wearers/unmet denture need	15
Total	100
Base	*2784*

From Table 14.4, it can be seen that, of those dentate adults who were dentally examined, 73% had no unmet denture need. This figure includes 60% of the dentate who relied completely on their natural dentition and a further 13% who already had a partial denture. By our definitions, 27% of dentate adults had an unmet denture need. This figure consisted of 12% who relied completely on their natural dentition and 15% who were partially dentured.

The types of partial dentures that we estimated were required by these groups are examined in detail at the end of this section. Firstly, however, we look in Table 14.5 at how the need for partial dentures among the dentate varied between the countries of the UK, the different age groups, social class groups and attendance pattern groups. Of the three countries, Scotland showed the highest proportion of dentate adults in need of a denture and England the lowest, with 32% of dentate adults in Scotland being in need of a partial denture compared to 25% in England.

The proportion of dentate adults who were in need of a denture was much higher in the older age groups than in the younger age groups, and, in fact, among adults aged 55 and over the majority of dentate adults were in need of denture work.

Table 14.5 also shows that those people from the top social class group and those people who attended the dentist for a regular check-up were in a favourable position with regard to unmet denture need.

A person who has had no previous denture experience can have a denture need ranging from a partial denture in one jaw to full upper and lower dentures. A person who already has a partial denture, however, has fewer options with regard to denture need. For example, a person with a full denture in a jaw could have no further denture need in that jaw. Table 14.6 shows the proportions of dentate adults with varying denture needs, according to their present denture pattern. It will be noted that for people who had a partial denture in a jaw, a distinction has been made between whether there was no further denture need in that jaw or whether a more extensive partial denture was needed.

Table 14.5 Partial denture need for dentate adults who were dentally examined by country, age, social class and attendance pattern

Current status/Denture need	Country				Age					
	England	Wales	Scotland	UK	16–24	25–34	35–44	45–54	55 and over	All ages
	%	%	%	%	%	%	%	%	%	%
Natural teeth only/No unmet need	61 } 75	58 } 72	53 } 68	60 } 73	90 } 95	76 } 85	56 } 68	34 } 61	17 } 45	60 } 73
Partial denture wearers/No unmet need	14	14	15	13	5	9	12	27	28	13
Natural teeth only/Unmet need	12 } 25	12 } 28	14 } 32	12 } 27	4 } 5	8 } 15	15 } 32	17 } 39	23 } 55	12 } 27
Partial denture wearers/Unmet need	13	16	18	15	1	7	17	22	32	15
Total	100	100	100	100	100	100	100	100	100	100
Base	*2350*	*320*	*748*	*2784*	*646*	*725*	*590*	*419*	*403*	*2784*

	Social Class				Attendance pattern			
	1,11,111N	IIIM	1V,V	All*	Regular check-up	Occasional check-up	Only with trouble	All
	%	%	%	%	%	%	%	%
Natural teeth only/No unmet need	63 } 79	57 } 71	56 } 69	60 } 73	67 } 82	70 } 79	49 } 62	60 } 73
Partial denture wearers/No unmet need	16	14	13	13	15	9	13	13
Natural teeth only/Unmet need	9 } 21	14 } 29	17 } 31	12 } 27	8 } 18	11 } 21	19 } 38	12 } 27
Partial denture wearers/Unmet need	12	15	14	15	10	10	19	15
Total	100	100	100	100	100	100	100	100
Base	*1136*	*950*	*493*	*2784*	*1270*	*401*	*1113*	*2784*

** Includes housewife, student, unemployed and unclassifiable categories not included elsewhere in the table.*

Table 14.6 Denture need by current denture pattern

Denture pattern needed		Current denture pattern						
Upper/Lower	*Upper*	None	None	Partial	Partial	Full	Full	All*
	Lower	None	Partial	None	Partial	None	Partial	
		%	%	%	%	%	%	%
None/None		$\boxed{83}$‡	—	—	—	—	—	65
None/Partial		5	$\boxed{49}$	—	—	—	—	4
None/Partial†		—	26	—	—	—	—	—
Partial/None		7	—	$\boxed{51}$	—	—	—	11
Partial†/None		—	—	27	—	—	—	3
Partial/Partial		5	20	15	$\boxed{62}$	—	—	9
Partial/Partial†		—	5	—	12	—	—	1
Partial†/Partial		—	—	7	14	—	—	1
Partial†/Partial†		—	—	—	11	—	—	1
Full/None		—	—	—	—	$\boxed{47}$	—	2
Full/Partial		—	—	—	1	52	$\boxed{2}$	2
Full/Partial†		—	—	—	—	—	98	1
Full/Full		—	—	—	—	1	—	—
Total		100	100	100	100	100	100	100
Base		*2008*	*33*	*349*	*170*	*89*	*127*	*2784*

* *Includes 8 people with denture patterns other than those shown in the table who formed too small a group for analysis.*
† *Indicates a more extensive partial denture in a jaw in which a partial denture was already present.*
‡ *The boxed percentages indicate no further denture need.*

It can be seen that a high proportion (83%) of people who relied completely on their natural dentition had no denture need, while there were lower proportions of adults with no further denture need among those who already had a denture of some type. Of those who had just a partial denture in one jaw, about one half had no further denture need, a quarter only needed a more extensive partial denture in the jaw in which they currently had a denture and the remainder needed partial denture work in both jaws. Of those people who had a partial denture in both jaws, 62% had no further denture need and only 1% needed a partial plate replaced by a full denture plate. Of those people with solely a full upper denture, 52% needed a partial denture in their lower jaw and, of those people who had a full upper denture and a partial lower denture a very high proportion (98%) had a further denture need. Although, by our definition, members of this latter group were in need of a more extensive partial denture in the lower jaw, one could speculate that as this group of people were those who were most heavily involved with partial dentures, any more extensive denture work would very likely lead to the provision of full dentures.

For the 27% of dentate adults who had an unmet denture need, it is interesting to summarize the extent of this unmet need. We have already seen that using the survey criteria of need only 4 people were in need of full dentures and, in fact, only 10 people were in need of a full denture plate in a jaw. Of the rest of those people with an unmet denture need 62% needed denture work which included the provision of a denture for a jaw in which there was, currently, no denture work, while 38% needed only more extensive denture work in a jaw or jaws where a denture was already present.

We can, therefore, see that in some cases a person who already has a partial denture, may have a denture need which, if met, would not result in any major change of denture pattern. It is interesting to see what the proportions of people with different partial denture patterns would be if all the survey defined need was met.

Table 14.7 Current partial denture patterns and estimated denture patterns needed

Denture pattern		Current denture pattern	Denture pattern if estimated need met
Upper	Lower		
		%	%
Full	None	14	5
Full	Partial	16	8
Partial	Partial	21	32
Partial	None	43	42
None	Partial	4	13
Partial	Full	1	—
None	Full	1	—
Total		100	100
Base		*958**	*1119†*

* *All the currently partially dentured*
† *Dentate adults who were examined and who were in need of a partial denture*

Table 14.7 shows the denture patterns of those who were currently partially dentured and the estimated proportions of people with the different denture patterns if all the estimated denture need was met. If it was the case that all this need was met by the provision of dentures there would be a significantly lower proportion of partial denture wearers with full denture plates than there is currently and a higher proportion with solely a partial lower denture and with partial denture work in both jaws.

References

[1] Gray, *et al Adult dental health in England and Wales in 1968* HMSO 1970.

[2] Todd and Whitworth *Adult dental health in Scotland 1972* HMSO 1974.

15 The history of denture provision

15.1 Introduction

When people lose the last of their natural teeth they have reached the final stage of their dental history. However, there are many different ways in which an individual can arrive at this stage. For example, a person might lose some natural teeth and have them replaced with partial dentures which they wear for several years before becoming edentulous, or a person might have a large number of teeth extracted and become edentulous with no intermediate involvement with partial dentures. In this chapter we look at topics pertaining to the dental history of those people with no natural teeth and describe the variations in these past experiences found among those currently edentulous in the United Kingdom.

We also describe the characteristics of the other set of denture wearers—the partially dentured who, provide information about one stage along the path of relinquishing total reliance on the natural dentition.

In the majority of this report we have described dental health in 1978. However, when describing the past experience of the edentulous or the partially dentured we are looking at events that may have occurred in a very different dental climate. In Volume 1 we confined analysis of these past experiences of the edentulous to those people who had lost their teeth in the previous 10 years, in order to detect change since 1968. In this volume, however, we look at the experiences of all those people with no natural teeth but we need to bear in mind that we have a cross-section of people who lost their teeth at varying lengths of time ago.

15.2 Partial dentures

Although the past dental experiences of the edentulous will vary considerably from one individual to another, those people who have no natural teeth can be classified into two groups by whether or not their dental history included the provision of partial dentures as a precursor to total tooth loss.

In the United Kingdom as a whole, 40% of people with no natural teeth had had partial dentures prior to becoming edentulous (Table 15.1). There was, in fact, no statistically significant different in this proportion between England, Wales and Scotland but within England a higher proportion of the edentulous in the south of the country had previously had a partial denture compared with those in the north.

A higher proportion of people who had lost the last of their teeth at a late age had previously had a denture compared with those who had become edentulous when they were young (Table 15.2). This is not a surprising result, as the provision of partial dentures delays total tooth loss by enabling people to keep healthy natural teeth longer in conjunction with dentures.

Table 15.1 Whether or not people who were edentulous had previously had partial dentures by region

	Region							Country			
	Northern		Midlands		Southern			England	Wales	Scotland	UK
	North West	North & N East	West Midlands	East Midlands	South West	North Thames	South Thames				
	%	%	%	%	%	%	%	%	%	%	%
Previously had partial dentures	40	36	35	33	38	50	51	39	41	44	40
Did not	60	64	65	67	62	50	49	61	59	56	60
Total	100	100	100	100	100	100	100	100	100	100	100
Base	*169*	*200*	*129*	*170*	*185*	*97*	*122*	*1072*	*217*	*548*	*1376*

Table 15.2 Whether or not people had partial dentures prior to becoming edentulous by age they became edentulous

	Age lost last of their natural teeth					
	10 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
Previously had partial dentures	32	36	38	44	51	40
Did not	68	64	62	56	49	60
Total	100	100	100	100	100	100
Base	*156*	*357*	*405*	*280*	*173*	*1376*

15.3 The circumstances of total tooth loss

It has been shown that the majority of people who had lost all of their natural teeth had never been provided with a partial denture and though in later sections we will look at the complete denture history of the minority that had had partial dentures, we look in this section at the circumstances surrounding the event of total tooth loss.

We have seen that the provision of partial dentures has an effect on the age that people become edentulous but it is also interesting to see how the age people lose all their teeth varies regionally (Table 15.3).

Of all people with no natural teeth, 38% had become edentulous before they were 35 and two thirds had lost all their teeth before they were 45. In Chapter 3, we saw evidence that people in England kept their teeth longer than people in Scotland and this can also be seen from Table 15.3. One half of edentulous adults in Scotland had lost all their teeth before the age of 35 compared with 35% in England. Within England, there was a slightly higher proportion of adults in the southern region of the country who did not lose their teeth until they were over 55 and this also corroborates the results described in Chapter 3.

Another topic of interest concerning the circumstances of total tooth loss is the number of teeth that were extracted at full clearance. Previous studies have shown that a substantial proportion of the edentulous have a large number of their natural teeth extracted on the last occasion and we look, in Table 15.4, at the geographical variations in the proportion of people with no natural teeth, who had 21 or more teeth extracted at the last occasion, according to whether or not they had had a partial denture prior to becoming edentulous.

Of all people with no natural teeth, 41% had had 21 or more teeth extracted on the last occasion though, not unexpectedly, a much higher proportion of people who had not previously had partial dentures had had large numbers of teeth extracted compared with those who had had a denture prior to becoming edentulous. Among the edentulous in Wales there was a lower proportion who had had 21 or more teeth extracted at full clearance compared with England. Within England, a lower proportion in the south than in the north had had a large number of teeth extracted. These variations are explained by the variations among that group of the edentulous who had not had a partial denture prior to becoming edentulous. Among those people who had had a partial denture, there was no significant regional

Table 15.3 Age at total tooth loss by region and country

Age lost teeth	Region							Country			
	Northern		Midlands		Southern			England	Wales	Scotland	UK
	North West	North & N East	West Mids	East Mids	South West	North Thames	South Thames				
	%	%	%	%	%	%	%	%	%	%	%
10–24	10	15	10	7	12	7	6	10	17	17	11
25–34	29	23	30	23	20	25	26	25	26	32	27
35–44	33	27	29	34	30	25	33	31	27	27	29
45–54	20	21	19	25	24	25	15	21	17	16	21
55 and over	8	14	12	11	14	18	20	13	13	8	12
Total	100	100	100	100	100	100	100	100	100	100	100
Base	*169*	*200*	*129*	*170*	*185*	*97*	*122*	*1072*	*217*	*548*	*1376*

Table 15.4 Proportion of people who had 21 or more teeth extracted at full clearance by region and country

	Region							Country			
	Northern		Midlands		Southern			England	Wales	Scotland	UK
	North West	North & N East	West Mids	East Mids	South West	North Thames	South Thames				
	Proportion who had 21 or more teeth extracted										
Those who had previously had a partial denture	18%	14%	31%	11%	20%	12%	10%	16%	18%	16%	17%
Base	*68*	*72*	*45*	*56*	*70*	*48*	*62*	*421*	*89*	*239*	*549*
Those who had not had a partial denture	66%	60%	57%	58%	56%	47%	56%	58%	46%	58%	57%
Base	*101*	*128*	*84*	*114*	*115*	*49*	*60*	*651*	*128*	*309*	*827*
All people with no natural teeth	47%	43%	48%	42%	42%	30%	32%	42%	34%	40%	41%
Base	*169*	*200*	*129*	*170*	*185*	*97*	*122*	*1072*	*217*	*548*	*1376*

Table 15.5 Reasons for having the last of the natural teeth extracted by number of teeth extracted at full clearance

Why informant had last of the natural teeth extracted	Number of teeth extracted			
	1 – 11	12 – 20	21 or more	All edentulous*
Teeth were decayed	67%	63%	50%	59%
Gums were bad	19%	25%	38%	29%
Asked the dentist to extract them	2%	3%	2%	2%
Other	2%	2%	2%	2%
Don't know/Can't remember	1%	1%	2%	2%
Base	*386*	*400*	*563*	*1376*

* *Includes those who did not know how many teeth they had had extracted.*

variation in the proportion who had had 21 or more teeth extracted on the last occasion except for the surprising result in the West Midlands region where as many as 31% of this group said they had had a large number of teeth extracted.

Table 15.5 shows the reasons the edentulous informants gave for having the last of their natural teeth extracted. The reasons given may not, in fact, have been the real reason why the dentist extracted the teeth but we were interested in what the informants perceived as the reason. The majority of those people with no natural teeth said that they had had the last of their natural teeth extracted because those teeth were decayed while 29% said it was because their gums were bad.

15.4 The partial denture history of the edentulous

In Section 15.2, we saw that 40% of the edentulous population had had partial dentures prior to becoming edentulous and, as such, these people have an extra instalment in their dental history which we examine more fully in this section.

The majority of people with no natural teeth who had had a partial denture, had first been provided with dentures before the age of 35, and this was true in each of the current age groups although 14% of those who were aged 65 and over had first had dentures after the age of 44 (Table 15.6). This group of edentulous people forms only a sub-set of the people with experience of partial dentures, and later we shall see to what extent their characteristics are similar to those people who currently had partial dentures at the time of the survey.

Table 15.6 How old when first had partial dentures by current age for the edentulous who had had a partial denture

Age when first had partial dentures	Current age of edentulous adults				
	16 – 44	45 – 54	55 – 64	65 and over	All ages
	%	%	%	%	%
10 – 24	75	57	37	35	44
25 – 34	25	29	33	30	30
35 – 44	—	13	19	18	15
45 and over	—	1	9	14	9
Don't know	—	—	2	3	2
Total	100	100	100	100	100
Base	*60*	*105*	*142*	*241*	*550*

Of those people who had had partial dentures prior to becoming edentulous, 22% of them had such dentures for 20 or more years and though, obviously, those who had dentures at young ages were more likely to have had them for long periods, even among those who first had partial dentures after the age of 44, 7% had kept them for 20 or more years before becoming edentulous (Table 15.7).

Overall 20% of adults with no natural teeth who had had a partial denture prior to becoming edentulous, said that they had had more than one set of partial dentures, and this proportion was, not surprisingly, higher amongst those who had worn partial dentures for several years (Table 15.8). As this information was concerned with events that, for many of the edentulous, had occurred a considerable time previously, it is likely that the results will be affected, to a certain extent, by the informant's memory, and may be an underestimate.

Table 15.7 How long had partial dentures by age at which first had dentures for the edentulous who had had a partial denture

How long had partial dentures	Age first had partial dentures				
	10 – 24	25 – 34	35 – 44	45 and over	All ages*
	%	%	%	%	%
Less than 2 years	10	11	19	23	12
2 less than 5 years	7	9	7	11	8
5 less than 10 years	20	21	20	32	21
10 less than 20 years	33	37	38	25	34
20 less than 30 years	17	16	15	7	15
30 years or more	12	5	—	—	7
Don't know	1	1	1	2	3
Total	100	100	100	100	100
Base	*242*	*165*	*84*	*46*	*550*

* *Includes those who could not remember at what age they first had dentures.*

Table 15.8 Number of sets of partial dentures by length of time had partial dentures for the edentulous who had had a partial denture

Number of sets of partial dentures	Length of time had partial dentures						
	Less than 2 years	2 less than 5 years	5 less than 10 years	10 less than 20 years	20 less than 30 years	30 years or more	All*
	%	%	%	%	%	%	%
One	92	92	85	75	71	63	80
More than one	8	8	15	25	29	37	20
Total	100	100	100	100	100	100	100
Base	*69*	*43*	*114*	*186*	*83*	*39*	*550*

* *Includes those who could not remember for how long they had partial dentures.*

Table 15.9 Denture patterns for the edentulous with different partial denture histories

Denture pattern		People who had one set of partial dentures	People who had more than one set of partial dentures	
Upper	Lower		First set	Final set
		%	%	%
Full	None	18	13	23
Full	Partial	11	2	25
Partial	Partial	15	10	20
Partial	None	47	70	27
None	Partial	6	5	2
Partial	Full	2	—	2
None	Full	1	—	1
Total		100	100	100
Base		*436*	*114*	*114*

It is interesting to see, for those people who said that they had had more than one set of partial dentures, what type of denture they were provided with initially, and what type they had just prior to becoming edentulous.

For people who had had more than one set of partial dentures, the denture pattern of the first set and the last set was very different (Table 15.9). Only 15% of people who had had more than one set of dentures had initially had a full plate in one jaw while one half of the plates worn just prior to becoming edentulous consisted of a full plate opposed by either natural teeth or a partial denture.

This low level of involvement apparent in first dentures was not surprising considering that further analysis showed that over half of those people who had had more than one set of partial dentures had had their first set before the age of 25.

Of the people who had had just one set of partial dentures prior to becoming edentulous, 47% had solely a partial upper denture and their denture pattern as a group represented a position midway between the pattern of first dentures and the pattern of final dentures of those people who had had more than one set of dentures.

15.5 Partial denture wearers

We have described the partial denture history of those people who at the time of interview were edentulous and who had had a denture prior to becoming edentulous, but to complete this history of tooth loss we look now at those people who were currently partially dentured at the time of the interview. Though these people may never become edentulous they do represent a dental state somewhere between total reliance on the natural dentition and total tooth loss. We have looked in detail at the current circumstances of people with partial dentures in a previous chapter but here we concentrate on the dental history of these people.

Table 15.10 is analogous to Table 15.6 in the previous section showing the age at which partial denture wearers first had dentures related to their current age.

As in the case of those people who had had a partial denture prior to becoming edentulous, the majority of the current partial denture wearers had first been provided with a denture before the age of 35. However, on average, people who were currently still partial denture wearers had first had dentures later in life than those who had already become edentulous. For example, 50% of those currently aged 65 and over who were partially dentured had received their denture when they were aged 45 and over compared with 14% of those who had no natural teeth (Table 15.6).

From Table 15.11 it can be seen that the longer a person had had partial dentures the more plates they were likely

Table 15.10 How old when first had dentures by current age for the partially dentured

Age first had dentures	Current age of partially dentured						
	16–24	25–34	35–44	45–54	55–64	65 and over	All ages
	%	%	%	%	%	%	%
10–24	100	68	40	28	17	10	35
25–34	—	32	40	22	17	20	25
35–44	—	—	20	30	21	15	19
45 and over	—	—	—	20	45	50	20
Don't know	—	—	—	—	—	5	1
Total	100	100	100	100	100	100	100
Base	*46*	*143*	*203*	*245*	*205*	*113*	*958*

Table 15.11 Number of sets of partial dentures by length of time had dentures for the partially dentured

Number of top/ bottom plates	Less than 2 years	2 less than 5 years	5 less than 10 years	10 less than 20 years	20 less than 30 years	30 years or more	All*
	%	%	%	%	%	%	%
Top							
One	88	74	59	33	20	15	40
More than one	12	26	41	67	80	85	60
Total	100	100	100	100	100	100	100
Base†	*74*	*66*	*165*	*290*	*156*	*138*	*915*
Bottom							
One	98	92	72	63	50	42	63
More than one	2	8	28	37	50	58	37
Total	100	100	100	100	100	100	100
Base‡	*37*	*30*	*62*	*126*	*78*	*77*	*414*

* *Includes those who could not remember for how long they had had dentures.*
† *All who had ever had top plate.*
‡ *All who had ever had bottom plate.*

to have had. It also shows that, on average, partial denture wearers had had more upper than lower dentures.

Looking back to Table 15.8, we see that current partial denture wearers had had more replacement plates, on average, than those who had partial dentures before becoming edentulous. For example, of those edentulous people who had had partial dentures for between 5 and 10 years, only 15% said they had had more than one plate while the comparable figures for current partial denture wearers were 41% for the upper denture and 28% for the lower denture.

Compared with those people who had partial dentures at some time in the past before they became edentulous, the current partial denture wearers appear to have brighter prospects in that this more extensive use of partial dentures may delay or prevent the occurrence of total tooth loss.

In the majority of cases, however, the edentulous were being asked to remember back over a longer period of time than the currently partially dentured so the affect of memory on the answers to this question cannot be discounted.

When asked why replacement plates had been necessary, over a half of those current partial denture wearers who had had more than one plate said it was because they had more teeth taken out. Of those people who had more than one top plate, 49% said that they had had a replacement because a previous plate was worn down, broken or damaged (Table 15.12). The proportion who said that they had changed their bottom plate for this reason was lower (30%) and this is likely to be because, as we saw in Chapter 13, people who had lower dentures tended not to wear them as often as upper dentures were worn. The fact that a previous plate had not fitted properly was given as a reason for replacement by one third of partial denture wearers who had had more than one plate.

As the fact that a person had had to have more teeth out was given as a reason for having a replacement denture by a substantial proportion of those people who had had more than one denture, we looked in more detail at the number of teeth a partially dentured person had had extracted since first having partial dentures (Table 15.13).

Table 15.12 Reasons for having more than one plate for the partially dentured who had had more than one plate

'Were any of the replacements needed because . . .'	Proportion to whom statement applied	
	Top plate	Bottom plate
You had more teeth taken out	54%	53%
The previous plate was worndown, damaged or broken	49%	30%
The previous plate didn't fit properly	36%	35%
The previous plate didn't look right	10%	7%
The previous plate hurt or caused ulcers	7%	11%
The previous plate didn't match the other plate	3%	10%
Base	*535*	*150*

Table 15.13 Number of teeth extracted since first having partial dentures by length of time a person had had partial dentures

Number of teeth extracted	Number of years had partial dentures				
	Up to 5 years	5 less than 10 years	10 less than 20 years	20 years or more	All
	%	%	%	%	%
None	72	54	27	12	34
1–5	24	36	52	39	40
6–11	4	8	13	22	14
12–20	—	1	6	17	8
21 or more	—	1	2	10	4
Total	100	100	100	100	100
Base	*157*	*174*	*300*	*327*	*958*

Overall, one third of partial denture wearers had not lost any teeth since first having their dentures fitted, while 40% had lost between one and five teeth and one quarter had lost six or more. The results show, not surprisingly, that the longer a person had had partial dentures the more likely they were to have lost several teeth for while only 4% of people who had had their dentures for up to five years had lost six or more teeth, the comparable figure for those who had had dentures for twenty or more years was 49%.

If people lose teeth after partial dentures are fitted and also have a replacement denture at some point, it is likely that their denture pattern will change. For example, a person with a partial denture in one jaw may lose enough teeth to necessitate replacement with a full denture, or may lose teeth in the opposing jaw which will be replaced by a partial denture.

During the interview we asked not only about a person's current denture pattern but also about the type of denture they were first provided with. (It should be noted that if a person loses teeth and has a partial denture in one jaw replaced by a more extensive (but still partial) denture, this change will not be apparent in the figures as both dentures would still be classified as partial.)

The dentures initially fitted were more likely to consist of solely a partial upper denture than the dentures that were currently worn and the current denture pattern consisted of more denture-work in both jaws than the pattern of first dentures (Table 15.14). These results are similar to those described in Section 15.4 above, when we looked at the partial denture history of the edentulous.

It is difficult, however, to make any comparison between the denture pattern of the current partial denture wearers and the past partial denture pattern of those who became edentulous, because, for the latter group we know the complete partial denture history whereas for current partial denture wearers, we do not know what stage of their history they had reached by the time of the interview.

Table 15.14 Current and past denture pattern for partial denture wearers

Denture pattern		Denture pattern on first receiving partial dentures	Current denture pattern*
Upper	Lower		
		%	%
Full	None	12	14
Full	Partial	6	16
Partial	Partial	16	21
Partial	None	60	43
None	Partial	5	4
Partial	Full	1	1
None	Full	—	1
Total		100	100
Base		*958*	*958*

* *Includes those people who were currently wearing the dentures that they were first provided with.*

15.6 Conclusions

In this chapter we have looked at the dental history of both the edentulous, and those who currently had partial dentures, in order to describe the circumstances surrounding tooth loss and the provision of dentures. It must be remembered that these groups are very hetrogeneous and that experiences of denture wearing, in some cases, have covered several decades. It would appear, however, that at least some of those who became edentulous in the past could have retained their natural teeth to a greater age had they been provided with partial dentures. Evidence in Volume 1 of this report, that a higher proportion of older adults are now being provided with partial dentures can, perhaps, be seen as a hopeful sign for the future.

16 Attitudes to edentulousness

16.1 Introduction

An important aspect influencing the dental health of a country is the population's attitude towards losing their teeth, for if people do not regard edentulousness as undesirable, they are unlikely to make the necessary efforts to keep their natural teeth.

From the interview we have information from people currently at three different points in dental life—those with solely natural teeth, those who have had some of their teeth replaced by partial dentures and those who no longer have any natural teeth, and so we can look both at the feelings that dentate adults have about the possibility in the future of losing their teeth as well as the attitudes of those who have already lost them.

16.2 Attitudes towards partial dentures

The fitting of partial dentures can be viewed as an intermediate stage between relying solely on natural teeth and becoming edentulous, although, of course, some of the people who have partial dentures may never become edentulous. It is, therefore, of interest to look first at the attitudes of these people with solely natural teeth to having a partial denture.

Those people who had no previous denture experience were asked how upsetting they found the thought of having a partial denture to replace some of their natural teeth. We saw in earlier chapters that there is a considerable range in the type of partial denture a person might have, varying from just one single false tooth to a complete denture for a jaw and when the question was asked about attitudes to partial dentures we did not specify what type of denture the respondents should consider but aimed to discover their general attitude towards having some kind of denture.

Just over a half of adults with solely natural teeth in the United Kingdom found the thought of having a partial denture upsetting, and as can be seen from Table 16.1 there was no significant difference between age groups in this proportion. The only significant difference in the proportion of dentate adults who found the thought of partial dentures upsetting was found between the sexes (Table 16.2), where a higher proportion of women than of men found the thought of partial dentures upsetting.

Table 16.2 Attitudes towards partial dentures for dentate men and women

'Do you find the thought of having a partial denture to replace some of your natural teeth . . .'	Sex		
	Male	Female	Both sexes
	%	%	%
Very upsetting	17	31	24
A little upsetting	28	33	30
Not at all upsetting	55	36	46
Total	100	100	100
Base	*1167*	*1137*	*2304*

16.3 Attitudes to full dentures

We have said earlier that one of the most important aspects of a person's attitude to their own dental health, is how they feel about becoming edentulous. A similar question to that asked about partial dentures was asked of all people with some natural teeth about their attitude to full dentures.

In general, adults found the thought of having full dentures more upsetting than the thought of having partial dentures. A smaller proportion of adults who already had a partial denture found the thought of full dentures upsetting compared with those adults who relied on natural teeth only, but even among the partial denture wearers, almost two thirds found the thought of having full dentures upsetting (Table 16.3).

Unlike the attitudes to partial dentures, the age of an individual appeared to affect their attitude to full dentures (Table 16.4). Both among those adults who relied only on natural teeth and among the partially

Table 16.1 Attitudes towards partial dentures for dentate adults in different age groups

'Do you find the thought of having a partial denture to replace some of your natural teeth . . .'	Age					
	16–24	25–34	35–44	45–54	55 and over	All ages
	%	%	%	%	%	%
Very upsetting	21	26	24	26	23	24
A little upsetting	33	30	30	29	25	30
Not at all upsetting	46	44	46	45	52	46
Total	100	100	100	100	100	100
Base	*681*	*682*	*481*	*254*	*206*	*2304*

Table 16.3 Attitude to full dentures by dental state

'Do you find the thought of losing all *your own teeth and having full dentures . . .'*	Natural teeth only	Partial denture wearers	All dentate adults
	%	%	%
Very upsetting	53	34	48
A little upsetting	24	29	25
Not at all upsetting	23	37	27
Total	100	100	100
Base	*2304*	*958*	*3262*

Table 16.4 Attitudes to full dentures among adults from different age groups

'Do you find the thought of losing all *your own teeth and having full dentures . . .'*	Age					
	16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
	Adults who rely solely on natural teeth					
Very upsetting	55	57	51	51	47	53
A little upsetting	25	22	25	23	21	24
Not at all upsetting	20	21	24	26	32	23
Total	100	100	100	100	100	100
Base	*681*	*682*	*481*	*254*	*206*	*2304*
	Adults with partial dentures					
Very upsetting	33	37	35	34	31	34
A little upsetting	41	33	28	31	25	29
Not at all upsetting	26	30	37	35	44	37
Total	100	100	100	100	100	100
Base	*46*	*143*	*203*	*245*	*318*	*958*
	All dentate adults					
Very upsetting	54	53	46	43	37	48
A little upsetting	26	24	26	27	24	25
Not at all upsetting	20	23	28	30	39	27
Total	100	100	100	100	100	100
Base	*726*	*825*	*684*	*499*	*524*	*3262*

dentured, a higher proportion of the older adults did not find the thought of full dentures at all upsetting compared with the younger adults although even among the youngest age group one in five of dentate adults did not find this thought at all upsetting.

In some aspects of dental health, a person's expectations can have a considerable influence over their dental future, and, therefore, in addition to looking at people's attitudes towards edentulousness, it is also important to know whether people expect to lose all their natural teeth at some time in their lives.

All dentate adults were asked *'Do you think that at some time you will have to have full dentures or do you think that you will always keep some of your natural teeth?'*, and the proportions of adults in the different age groups who said that they thought that they would always keep some of their natural teeth are shown in Table 16.5.

Table 16.5 Expectations of retaining natural teeth by age

Age	Proportion who expect to keep some natural teeth all their lives		
	Natural teeth only	Partial denture wearers	All dentate adults
16 – 24	70% *681*	58% *46*	69% *726*
25 – 34	67% *682*	43% *143*	63% *825*
35 – 44	63% *481*	47% *203*	58% *684*
45 – 54	63% *254*	40% *245*	51% *499*
55 and over	68% *206*	51% *318*	58% *524*
All ages	67% *2304*	46% *958*	61% *3262*

Three out of every five dentate adults thought that they would be able to keep some of their natural teeth all their lives, and a lower proportion of partial denture wearers thought that they would be able to retain some of their teeth compared with those who relied on natural teeth only. Among the age groups, the highest proportion of adults who expected to keep some natural teeth was found among the youngest adults where, perhaps, total tooth loss was more remote than it was among the older age groups.

Several times previously in this report, we have noted the effect that an individual's dental attendance pattern has on his dental health and dental attitudes. In Table 16.6, the effect of attendance pattern on a person's expectation of retaining their natural teeth is examined.

It can be seen that, in the United Kingdom as a whole, 68% of regular attenders expected to retain some of their natural teeth all their life compared with 51% of those who attend only when having trouble with their teeth. The table shows that this variation between the expectations of the two attendance pattern groups was apparent in all the regions but also that there was a geographical variation in the proportion of dentate adults who expected to retain some of their teeth all their lives. There was no difference in this proportion between England, Scotland and Wales, but within England there was a higher proportion of adults who expected to keep some of their teeth all their lives in the south of the country than in the north. In fact, these differences were so marked that in the North West, the proportion of regular attenders who expected to retain their teeth was equal to the proportion of irregular attenders in the South Thames area who expected to retain their natural teeth all of their life.

It is interesting to see the relationship between a person's attitude to having full dentures and whether or not they think they will ever need them (Table 16.7).

Of those dentate adults who expected to keep some of their natural teeth all their lives, 58% found the thought of having full dentures very upsetting and only 18% did not find it at all upsetting. Of those who expected at some time to have full dentures, however, only 30% found the thought of having full dentures very upsetting and as many as 43% did not find this at all upsetting.

A further factor that can influence a person's attitude to becoming edentulous is the dental state of people that they know of their own age, for if a person is constantly in contact with people of a similar age who have lost all their teeth then it may be that this dental state will be considered the norm.

All dentate adults were asked *'Thinking of people you know around your age, about how many of them have full dentures?'*. The results are shown in Table 16.8, according to the person's attitude to full dentures.

Table 16.6 Expectations of retaining natural teeth by region, country and attendance pattern

Region/country	Proportion who expect to keep some natural teeth all their lives		
	Regular check-up	Only with trouble	All dentate adults
North West	65% *127*	52% *190*	59% *365*
North and North East	66% *155*	42% *167*	54% *371*
West Midlands	63% *128*	47% *137*	59% *302*
East Midlands	64% *171*	53% *151*	60% *364*
South West	74% *245*	50% *181*	64% *496*
North Thames	71% *194*	54% *176*	64% *450*
South Thames	73% *187*	65% *162*	69% *413*
England	69% *1207*	52% *1164*	62% *2761*
Wales	69% *140*	56% *158*	61% *363*
Scotland	71% *328*	50% *412*	60% *872*
United Kingdom	68% *1404*	51% *1392*	61% *3262*

Table 16.7 Attitude to full dentures by expectation of keeping natural teeth

Found the thought of full dentures	Proportion who expect to:		
	Keep natural teeth all their life	Have full dentures	All*
	%	%	%
Very upsetting	58	30	48
A little upsetting	24	27	25
Not at all upsetting	18	43	27
Total	100	100	100
Base	*1965*	*1019*	*3262*

* *Includes those who did not know whether they expected to keep their natural teeth all their life or have full dentures.*

There is evidence from these results that the dental state of those people with whom one is in contact with is related to peoples' attitudes towards edentulousness. For example, of those people who said that very few or none of the people they knew of their own age had full dentures, 52% said they found the thought of full dentures very upsetting while the comparable proportion for those who said that all or most of the people that they knew of their own age had full dentures was 39%.

Table 16.8 Dental state of persons of similar age to informant for dentate adults by attitude to full dentures

'Do you find the thought of losing all *your teeth and having full dentures . . .'*	People of same age who have full dentures		
	All or most of them	Some of them	Very few or none of them
	%	%	%
Very upsetting	39	43	52
A little upsetting	25	26	25
Not at all upsetting	36	31	23
Total	100	100	100
Base	*517*	*759*	*1897*

Table 16.9 Dental state of persons of similar age to informant for dentate adults by age of informant

People of same age who have full dentures	Age					
	16–24	25–34	35–44	45–54	55 and over	All ages
	%	%	%	%	%	%
All/most of them	4	5	12	24	49	16
Some of them	8	18	29	39	30	23
Very few/none of them	88	77	57	33	16	59
Don't know	—	—	2	4	5	2
Total	100	100	100	100	100	100
Base	*726*	*825*	*684*	*499*	*524*	*3262*

The response to the question about the people that an informant knew of the same age, with full dentures will obviously be affected by the age of the informant. Over half of all dentate adults said that very few or none of the people they knew of their own age had full dentures but this proportion varied considerably from 88% of those aged between 16 and 24 to just 16% of those aged 55 and over (Table 16.9).

16.4 Attitudes to denture wearing

In the first part of this chapter we looked at the state of edentulousness from the point of view of those people who had some natural teeth but now we consider the attitudes towards edentulousness and denture wearing for people who had dentures. Although we have looked at the attitudes of the partial denture wearers towards edentulousness in the earlier sections of this chapter, we also include them in this section on denture wearing as the subject is as relevant to them as it is to those who are edentulous.

One indication of a person's attitude towards denture wearing is how they feel about being seen without their dentures by their family or their friends. When asked how much it would worry them if their family were to see them without their dentures, 59% of all denture wearers said that it would not worry them at all and a significantly higher proportion of full denture wearers said this would not worry them, compared with adults with partial dentures (Table 16.10). There was also considerable variation in these proportions between the two sexes with 72% of men saying that it did not worry them at all if their family saw them without dentures compared with 50% of women.

A much higher proportion of denture wearers were worried about people other than their family seeing them without their dentures (Table 16.11) and there was no significant difference between the proportion of partial denture wearers and the proportion of full denture wearers who said that this would worry them. Again, men were much less worried about being seen without their dentures than women. (Of the men, 49% said that it would not worry them at all if someone other than family were to see them without their dentures compared with 25% of the women.)

16.5 The attitudes of the edentulous

We conclude this chapter by looking at the attitudes towards edentulousness of those people who had lost all their natural teeth. If, as was suggested earlier, people are influenced in their attitudes to dental health by those around them, then the attitudes of the section of the population who have lost their natural teeth may have

Table 16.10 Attitudes towards being seen without dentures by family

'Some people who wear dentures don't like their family to see them without their teeth. How much does this worry you . . .'	Partial denture wearers	Full denture wearers	All denture wearers
	%	%	%
Very much	26	23	24
To some extent	19	15	17
Not at all	55	62	59
Total	100	100	100
*Base**	*809*	*1254*	*2063*

* *Base excludes those people with no family and those who had never had or never wore a denture.*

Table 16.11 Attitudes towards being seen without dentures by people other than family

'If people other than the family were to see you without your teeth how much would this worry you . . .'	Partial denture wearers	Full denture wearers	All denture wearers
	%	%	%
Very much	46	42	44
To some extent	21	21	21
Not at all	33	37	35
Total	100	100	100
*Base**	*822*	*1256*	*2078*

* *Base excludes those who had never had a denture.*

Table 16.12 Expectations of losing natural teeth for the edentulous by the age they lost the last of their natural teeth

'Did you expect to lose your teeth (at the age you did) or were you surprised to have them out at that age?'	Age lost teeth					
	10 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
Expected to lose them	35	44	46	61	71	50
Surprised at that age	61	46	46	32	24	42
Other qualified answer	3	7	7	6	4	6
Don't know	1	3	1	1	1	2
Total	100	100	100	100	100	100
Base	*156*	*357*	*405*	*280*	*173*	*1376*

Table 16.13 Feelings on becoming edentulous by whether or not a person expected to lose their teeth at that age

How informant felt about losing the last of their natural teeth	Expected to lose teeth at that age	Surprised to lose them	All edentulous adults*
Glad to be rid of them	52%	37%	46%
Upset	17%	41%	27%
Not worried about it	17%	8%	14%
Can't remember	5%	5%	5%
Base	*691*	*581*	*1376*

* *Includes those who said they could not remember whether or not they expected to lose their teeth.*

an impact on the attitudes and expectations of the dentate.

As a relatively large proportion of the dentate said that they expected to lose their natural teeth at some time in their lives, it is interesting to see whether those who had lost their teeth had expected to become edentulous (Table 16.12).

Those people who had lost all their natural teeth were asked at what age they became edentulous and were then asked '*Did you expect to lose your teeth around then or were you surprised to have them out at that age?*' It must be remembered that these results cover a considerable time span, for some of the people interviewed had lost their teeth more than thirty years previously.

Of all those adults with no natural teeth, 42% said that they had been surprised to lose their teeth at the age that they did, although there was considerable variation in this proportion according to the age that a person became edentulous (Table 16.12). For example, 61% of adults who became edentulous when they were aged between 10 and 24 were surprised to lose their teeth at the age they did, compared with just 24% of those who lost their teeth when they were 55 years or older. Looking at these results from another angle it is, perhaps, disturbing to see that as many as 35% of adults who lost their teeth before the age of 25, said that they expected to lose their teeth at the age that they did. However, as well as the fact that the event of total tooth loss may have occurred many years previously when expectations were different, there is also the possibility that with hindsight people rationalize an event which at the time they found surprising.

These provisos must also be considered when looking at the answers given by the edentulous when they were asked how they felt about losing the last of their natural teeth (Table 16.13).

Almost one half of edentulous adults said that they were glad to be rid of their natural teeth and only 27% expressed any regret about becoming edentulous. Among those people who were surprised to lose their teeth at the age that they did, there was a higher proportion who said that they were upset by losing their teeth but even in this group 37% said they were glad to be rid of their natural teeth.

It appears, therefore, that the event of total tooth loss for the majority of those people who were currently edentulous, had not been an upsetting experience. It is interesting to see, therefore, what advice the edentulous would give the dentate about losing their natural teeth. In response to the question '*If you knew someone who thought they might soon have to have the rest of their teeth out and a full denture fitted, what advice would you give them?*', 56% of the edentulous spontaneously said that they would tell this person not to hesitate about having their natural teeth out, while only 18% said that they would advise someone to keep their natural teeth as long as possible.

16.6 Conclusions

In this chapter, we have seen that the majority of dentate adults found the thought of becoming edentulous upsetting and that three out of five of the dentate said that they expected to be able to keep some of their natural teeth all their lives. However, from the point of view of the majority of people who had lost all of their natural teeth, becoming edentulous had not been an upsetting experience. If one would wish to encourage the dentate to preserve their natural teeth for as long as possible, one could not rely on any influence to this end from those people who have already lost their natural teeth, who appear to have come to terms quite happily with their dental state.

TABLES

A Total tooth loss in the United Kingdom, England and Scotland by age and social class.

B The distribution of number of missing, sound, filled (otherwise sound) and decayed teeth among dentate adults in the United Kingdom by country, region, age, sex, social class and dental attendance pattern.

C The condition of the individual teeth for dentate adults from the United Kingdom, England, Wales and Scotland by age and attendance pattern.

D A summary of base numbers.

Notes on Tables

Base numbers have been given in italics. Where a base number is small (normally less than 30), statistics have not been given and this is indicated by an asterisk. A dash in a table represents a proportion of less than 0.5% or a zero value.

The varying positions of percentage signs and bases in the tables denote the presentation of different types of information. Where the percentage sign is at the head of a column and the base is at its foot, the whole distribution is presented and the figures add to 100%. A percentage sign at the side of an individual figure signifies that this proportion of people had the attribute of being discussed or gave a certain answer and the complementary proportion (not shown in the table) did not.

Because several different sub-groups are analysed throughout the report, the base numbers of the tables vary. One example of this is when all dentate adults are included in some sections, whereas only dentate adults who took part in the dental examination are included in others.

In section D the sizes of the most common sub-groups used in the report are presented. This enables cross references to be made between the bases of the tables in the report and the sizes of the sub-groups, to check which groups have been included in the analyses. The less commonly used sub-groups are described on the tables where they are included.

Base numbers for Scotland and Wales, where shown separately, are unweighted whereas UK figures include the downweighted figures for Scotland and Wales. Because of the rounding of decimal places on the weighted figures, slight inconsistencies occur, in that in some cases, the sizes of sub-groups do not sum to the size of the total group. (See Section 1.3 for a more detailed explanation of the weighting system).

Table A1 **Total tooth loss in the UK for people in different age groups by sex and social class**

United Kingdom

Age	Social class							
	I, II, IIIN		IIIM		IV, V		All*	
	Proportion with no natural teeth							
Males								
16–24	—	*110*	—	*128*	2%	*84*	—	*360*
25–34	2%	*140*	7%	*144*	3%	*76*	4%	*380*
35–44	6%	*154*	11%	*153*	15%	*73*	10%	*392*
45–54	18%	*145*	34%	*129*	31%	*73*	27%	*361*
55–64	29%	*121*	45%	*130*	61%	*86*	43%	*353*
65 and over	64%	*106*	80%	*134*	88%	*71*	76%	*329*
All ages	18%	*776*	29%	*818*	33%	*464*	25%	*2176*
Females								
16–24	—	*120*	—	*125*	—	*78*	—	*369*
25–34	1%	*200*	7%	*175*	8%	*76*	4%	*480*
35–44	10%	*156*	21%	*137*	17%	*73*	16%	*393*
45–54	24%	*135*	40%	*122*	47%	*81*	36%	*367*
55–64	49%	*136*	63%	*101*	67%	*78*	58%	*358*
65 and over	74%	*135*	77%	*83*	88%	*124*	82%	*492*
All ages	25%	*883*	29%	*743*	43%	*512*	33%	*2463*
Both sexes								
16–24	—	*230*	—	*253*	1%	*162*	—	*729*
25–34	1%	*340*	7%	*319*	6%	*152*	4%	*860*
35–44	8%	*311*	16%	*290*	16%	*146*	13%	*785*
45–54	21%	*280*	37%	*252*	40%	*154*	32%	*728*
55–64	40%	*257*	53%	*230*	64%	*165*	50%	*711*
65 and over	70%	*240*	79%	*217*	88%	*195*	79%	*821*
All ages	22%	*1658*	29%	*1561*	38%	*976*	30%	*4639*

* *Includes housewife, students and unclassifiable categories not included elsewhere in the table.*

Table A2 **Total tooth loss in England for people in different age groups by sex and social class**

England

Age	Social class							
	I, II, IIIN		IIIM		IV, V		All*	
	Proportion with no natural teeth							
Males								
16–24	—	*91*	—	*104*	1%	*72*	—	*301*
25–34	2%	*115*	5%	*115*	3%	*64*	3%	*309*
35–44	5%	*128*	9%	*128*	15%	*59*	8%	*323*
45–54	14%	*124*	29%	*106*	29%	*55*	22%	*294*
55 and over	44%	*191*	60%	*223*	73%	*127*	57%	*570*
All ages	17%	*649*	27%	*676*	32%	*378*	24%	*1798*
Females								
16–24	—	*99*	—	*103*	—	*63*	—	*304*
25–34	1%	*169*	5%	*143*	8%	*63*	4%	*400*
35–44	9%	*127*	19%	*112*	14%	*63*	14%	*324*
45–54	21%	*111*	37%	*103*	43%	*65*	33%	*304*
55 and over	60%	*226*	66%	*157*	79%	*169*	69%	*699*
All ages	24%	*733*	27%	*618*	41%	*423*	32%	*2035*
Both sexes								
16–24	—	*190*	—	*207*	1%	*135*	—	*605*
25–34	1%	*284*	5%	*258*	6%	*127*	3%	*709*
35–44	7%	*255*	13%	*240*	15%	*122*	11%	*647*
45–54	17%	*235*	33%	*209*	37%	*120*	28%	*598*
55 and over	52%	*417*	63%	*380*	76%	*296*	64%	*1269*
All ages	20%	*1382*	27%	*1294*	37%	*801*	28%	*3833*

* *See footnote to Table A1.*

Table A3 **Total tooth loss in Scotland for people in different age groups by sex and social class**

Scotland

Age	Social class							
	1, II, 1IIN		IIIM		1V, V		All†	
	Proportion with no natural teeth							
Males								
16 – 24	2%	*42*	2%	*40*	*	*21*	3%	*112*
25 – 34	2%	*42*	14%	*52*	*	*23*	7%	*124*
35 – 44	18%	*45*	24%	*48*	*	*22*	24%	*115*
45 – 54	42%	*33*	54%	*44*	50%	*32*	51%	*115*
55 and over	56%	*68*	71%	*72*	79%	*48*	69%	*196*
All ages	27%	*230*	37%	*253*	62%	*146*	35%	*662*
Females								
16 – 24	3%	*36*	—	*48*	3%	*37*	2%	*132*
25 – 34	8%	*53*	14%	*63*	*	*26*	12%	*148*
35 – 44	19%	*48*	35%	*46*	*	*25*	30%	*121*
45 – 54	51%	*47*	65%	*34*	*	*25*	57%	*113*
55 and over	67%	*88*	96%	*45*	86%	*62*	80%	*244*
All ages	36%	*272*	38%	*236*	47%	*175*	42%	*758*
Both sexes								
16 – 24	3%	*78*	1%	*88*	3%	*58*	2%	*244*
25 – 34	5%	*95*	14%	*115*	8%	*49*	10%	*272*
35 – 44	18%	*93*	30%	*91*	36%	*47*	27%	*236*
45 – 54	48%	*80*	59%	*78*	54%	*57*	54%	*228*
55 and over	62%	*156*	80%	*117*	83%	*110*	75%	*440*
All ages	32%	*502*	38%	*489*	45%	*321*	39%	*1420*

† *See footnote to Table A1.*
* *Percentages not given for base numbers under 30.*

Table B1 **Distribution of the numbers of missing teeth among dentate adults in the UK in different age groups by sex**

United Kingdom

Number of missing teeth	Age					
	16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
Males						
0	5	7	3	—	—	3
1 – 5	65	46	30	14	5	36
6 – 11	27	36	44	37	25	34
12 – 17	2	6	14	26	25	13
18 or more	1	5	9	23	45	14
Total	100	100	100	100	100	100
Mean	4.8	6.2	8.7	12.3	16.6	9.1
Base	*319*	*313*	*310*	*230*	*225*	*1398*
Females						
0	5	3	1	—	1	2
1 – 5	61	48	29	12	6	37
6 – 11	31	37	42	36	20	34
12 – 17	2	9	13	27	35	14
18 or more	1	3	15	25	38	13
Total	100	100	100	100	100	100
Mean	5.0	6.5	9.7	12.9	15.8	8.8
Base	*327*	*412*	*279*	*190*	*178*	*1386*
Both sexes						
0	5	5	2	–	–	3
1 – 5	63	48	29	13	6	36
6 – 11	29	36	44	37	23	34
12 – 17	2	7	13	27	29	14
18 or more	1	4	12	23	42	13
Total	100	100	100	100	100	100
Mean	4.9	6.4	9.2	12.6	16.2	9.0
Base	*646*	*724*	*589*	*419*	*403*	*2784*

Table B2 **Distribution of the numbers of missing teeth among dentate adults in England in different age groups by sex**

England

Number of missing teeth	Age					
	16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
Males						
0	5	8	3	1	1	4
1 – 5	67	49	32	16	6	36
6 – 11	25	34	45	36	26	34
12 – 17	2	5	11	27	24	13
18 or more	1	4	9	20	43	13
Total	100	100	100	100	100	100
Mean	4.6	5.8	8.3	11.9	16.3	8.9
Base	*267*	*253*	*261*	*200*	*194*	*1176*
Females						
0	6	4	1	—	1	3
1 – 5	65	50	31	12	6	38
6 – 11	27	37	42	39	20	34
12 – 17	1	7	11	26	36	13
18 or more	1	2	15	23	37	12
Total	100	100	100	100	100	100
Mean	4.6	6.2	9.4	12.6	15.6	8.6
Base	*270*	*349*	*235*	*163*	*157*	*1174*
Both sexes						
0	5	5	2	—	1	3
1 – 5	67	50	31	14	6	37
6 – 11	26	36	44	37	23	34
12 – 17	1	6	11	27	30	13
18 or more	1	3	12	22	40	13
Total	100	100	100	100	100	100
Mean	4.6	6.0	8.8	12.2	16.0	8.7
Base	*537*	*602*	*496*	*363*	*351*	*2350*

Table B3 **Distribution of the numbers of missing teeth among dentate adults in Scotland in different age groups by sex**

Scotland

Number of missing teeth	Age					
	16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
Males						
0	1	2	—	—	—	1
1 – 5	50	32	17	2	2	25
6 – 11	46	46	41	39	14	40
12 – 17	3	10	26	24	29	16
18 or more	—	10	16	35	55	18
Total	100	100	100	100	100	100
Mean	5.8	8.3	11.3	14.9	18.2	10.6
Base	*95*	*97*	*77*	*46*	*55*	*370*
Females						
0	1	—	3	—	—	1
1 – 5	38	31	22	8	12	27
6 – 11	52	40	30	30	23	39
12 – 17	6	18	16	35	20	16
18 or more	3	11	29	27	45	17
Total	100	100	100	100	100	100
Mean	6.9	9.3	12.5	13.8	16.0	10.3
Base	*116*	*115*	*67*	*40*	*40*	*378*
Both sexes						
0	1	1	1	—	—	1
1 – 5	43	32	19	5	6	26
6 – 11	50	41	36	35	18	39
12 – 17	5	15	22	29	25	16
18 or more	1	11	22	31	51	18
Total	100	100	100	100	100	100
Mean	6.4	8.8	11.8	14.4	17.3	10.4
Base	*211*	*212*	*144*	*86*	*95*	*748*

Table B4 Distribution of the numbers of missing teeth among dentate adults in the UK in different age groups by social class

United Kingdom

Number of missing teeth	Age					
	16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
I, II, IIIN						
0	7	5	2	1	1	3
1 – 5	66	55	36	15	8	38
6 – 11	25	33	44	46	25	35
12 – 17	1	6	11	19	27	12
18 or more	1	1	7	19	39	12
Total	100	100	100	100	100	100
Mean	4.6	5.4	8.0	11.3	15.4	8.4
Base	*207*	*302*	*255*	*192*	*180*	*1136*
IIIM						
0	4	4	2	—	—	3
1 – 5	63	45	25	11	3	35
6 – 11	31	38	43	23	23	33
12 – 17	1	9	15	40	34	16
18 or more	1	4	15	26	40	13
Total	100	100	100	100	100	100
Mean	4.8	6.8	9.8	14.1	16.6	9.2
Base	*231*	*264*	*205*	*135*	*115*	*950*
IV, V						
0	2	3	2	—	—	2
1 – 5	58	40	23	13	1	32
6 – 11	35	40	39	32	20	35
12 – 17	4	8	19	29	31	15
18 or more	1	9	17	26	48	16
Total	100	100	100	100	100	100
Mean	5.6	7.4	10.4	12.9	17.5	9.6
Base	*135*	*120*	*104*	*70*	*65*	*494*

Table B5 Distribution of the numbers of missing teeth among dentate adults in England in different age groups by social class

England

Number of missing teeth	Age					
	16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
I, II, IIIN						
0	8	6	1	1	1	4
1 – 5	67	54	38	15	9	39
6 – 11	23	34	46	48	25	35
12 – 17	1	5	8	18	27	11
18 or more	1	1	7	18	38	11
Total	100	100	100	100	100	100
Mean	4.4	5.2	7.7	11.0	15.1	8.2
Base	*172*	*255*	*212*	*169*	*156*	*964*
IIIM						
0	4	5	3	—	—	3
1 – 5	68	48	26	13	3	36
6 – 11	27	36	44	20	24	32
12 – 17	1	8	13	42	35	16
18 or more	0	3	14	25	38	13
Total	100	100	100	100	100	100
Mean	4.5	6.4	9.4	13.9	16.4	9.0
Base	*190*	*217*	*176*	*118*	*104*	*805*
IV, V						
0	3	4	2	—	—	2
1 – 5	61	43	26	16	2	34
6 – 11	31	39	39	33	20	34
12 – 17	4	7	17	30	31	15
18 or more	1	7	16	21	47	15
Total	100	100	100	100	100	100
Mean	5.3	6.9	10.0	11.9	17.4	9.3
Base	*111*	*99*	*88*	*57*	*55*	*411*

Table B6 Distribution of the numbers of missing teeth among dentate adults in Scotland in different age groups by social class

Scotland

Number of missing teeth	Age					
	16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
I, II, IIIN						
0	1	1	3	—	—	1
1 – 5	54	46	26	11	7	32
6 – 11	43	35	39	39	22	36
12 – 17	1	12	23	31	26	17
18 or more	1	6	9	19	45	14
Total	100	100	100	100	100	100
Mean	5.9	7.1	9.5	12.3	16.4	9.6
Base	*70*	*78*	*69*	*36*	*55*	*308*
IIIM						
0	—	1	—	*	*	—
1 – 5	33	24	14	*	*	21
6 – 11	57	50	39	*	*	45
12 – 17	7	14	20	*	*	15
18 or more	3	11	27	*	*	19
Total	100	100	100			100
Mean	7.0	9.2	12.9	*	*	10.9
Base	*75*	*86*	*49*	*29*	*19*	*258*
IV, V						
0	—	—	*	*	*	—
1 – 5	47	21	*	*	*	23
6 – 11	47	34	*	*	*	33
12 – 17	6	21	*	*	*	20
18 or more	—	24	*	*	*	24
Total	100	100				100
Mean	6.2	11.8	*	*	*	12.0
Base	*47*	*38*	*24*	*16*	*15*	*140*

* *Means and percentages not given for bases under 30.*

Table B7 Distribution of the numbers of missing teeth among dentate adults in the UK in different age groups by attendance pattern

United Kingdom

Number of missing teeth	Age					
	16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
Those who attend for a regular check-up						
0	3	4	1	1	1	2
1 – 5	66	53	36	17	9	42
6 – 11	28	35	47	46	34	38
12 – 17	2	6	11	22	27	11
18 or more	1	2	5	14	29	7
Total	100	100	100	100	100	100
Mean	5.0	5.7	7.7	10.6	13.6	7.6
Base	*299*	*353*	*293*	*183*	*142*	*1270*
Those who attend only when having trouble with their teeth						
0	5	5	2	—	—	2
1 – 5	62	40	22	10	2	28
6 – 11	30	40	41	26	17	32
12 – 17	2	9	17	30	30	17
18 or more	1	6	18	34	51	21
Total	100	100	100	100	100	100
Mean	5.0	7.2	10.7	14.5	18.1	10.9
Base	*228*	*252*	*221*	*192*	*220*	*1113*

Table B8 **Distribution of the numbers of missing teeth among dentate adults in England in different age groups by attendance pattern**

England

Number of missing teeth	Age					
	16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
Those who attend for a regular check-up						
0	4	5	1	1	1	3
1 – 5	68	53	37	18	9	43
6 – 11	25	35	48	46	35	37
12 – 17	2	5	9	22	27	10
18 or more	1	2	5	13	28	7
Total	100	100	100	100	100	100
Mean	4.7	5.6	7.4	10.4	13.4	7.4
Base	*251*	*302*	*249*	*163*	*126*	*1091*
Those who attend only when having trouble with their teeth						
0	6	5	2	—	—	3
1 – 5	66	44	25	11	2	30
6 – 11	26	39	42	26	18	30
12 – 17	1	7	14	32	31	17
18 or more	1	5	17	31	49	20
Total	100	100	100	100	100	100
Mean	4.6	6.7	10.2	14.1	17.9	10.6
Base	*186*	*204*	*186*	*163*	*188*	*927*

Table B9 **Distribution of the numbers of missing teeth among dentate adults in Scotland in different age groups by attendance pattern**

Scotland

Number of missing teeth	Age					
	16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
Those who attend for a regular check-up						
0	1	—	2	—	—	1
1 – 5	49	42	31	12	12	35
6 – 11	46	44	41	40	24	41
12 – 17	2	10	17	30	26	13
18 or more	2	4	9	18	38	10
Total	100	100	100	100	100	100
Mean	6.2	7.1	9.5	12.0	14.7	8.8
Base	*87*	*78*	*64*	*33*	*34*	*296*
Those who attend only when having trouble with their teeth						
0	—	2	—	—	—	1
1 – 5	40	18	7	—	4	18
6 – 11	51	43	30	30	13	36
12 – 17	8	19	23	20	26	18
18 or more	1	18	40	50	57	27
Total	100	100	100	100	100	100
Mean	6.8	10.8	15.2	16.8	18.7	12.5
Base	*88*	*93*	*56*	*40*	*54*	*331*

Table B10 **Distribution of the numbers of missing teeth among dentate adults in different age groups by region**

England and Wales

Number of missing teeth	Age					
	16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
North West						
0	3	3	—	—	—	1
1 – 5	60	37	15	4	5	28
6 – 11	34	46	48	39	18	39
12 – 17	3	11	19	29	30	16
18 or more	—	3	18	28	47	16
Total	100	100	100	100	100	100
Mean	5.1	7.2	10.8	13.9	17.1	9.9
Base	*70*	*75*	*67*	*51*	*40*	*303*
North and North East						
0	1	5	3	—	—	2
1 – 5	64	44	24	13	18	38
6 – 11	32	40	55	47	14	40
12 – 17	3	7	5	21	36	10
18 or more	—	4	13	19	32	10
Total	100	100	100	100	100	100
Mean	4.9	6.4	9.1	11.9	15.7	8.2
Base	*78*	*101*	*63*	*47*	*28*	*317*
West Midlands						
0	10	—	5	—	—	3
1 – 5	57	52	25	19	—	32
6 – 11	31	41	48	35	23	37
12 – 17	—	5	9	29	32	13
18 or more	2	2	13	17	45	15
Total	100	100	100	100	100	100
Mean	4.7	5.7	9.2	11.4	16.1	9.1
Base	*51*	*59*	*67*	*42*	*47*	*266*
East Midlands						
0	5	7	7	—	—	4
1 – 5	67	43	26	12	—	36
6 – 11	26	36	48	39	36	36
12 – 17	2	8	3	30	29	12
18 or more	—	6	16	19	35	12
Total	100	100	100	100	100	100
Mean	4.5	6.6	8.8	12.2	15.4	8.4
Base	*86*	*88*	*61*	*43*	*45*	*324*
South West						
0	6	6	1	—	—	3
1 – 5	67	51	37	16	3	40
6 – 11	24	35	37	33	21	30
12 – 17	1	5	16	27	31	14
18 or more	2	3	9	24	45	13
Total	100	100	100	100	100	100
Mean	4.9	5.6	8.2	12.5	17.7	8.8
Base	*95*	*107*	*93*	*70*	*58*	*423*
North Thames						
0	8	10	—	2	1	5
1 – 5	69	58	41	14	14	43
6 – 11	23	27	38	34	24	29
12 – 17	—	4	9	28	33	12
18 or more	—	1	12	22	28	11
Total	100	100	100	100	100	100
Mean	4.1	5.0	8.4	11.9	13.6	7.9
Base	*91*	*103*	*66*	*58*	*69*	*387*
South Thames						
0	6	3	—	—	2	2
1 – 5	80	58	44	21	5	43
6 – 11	12	30	38	33	23	28
12 – 17	—	6	13	25	22	12
18 or more	2	3	5	21	48	15
Total	100	100	100	100	100	100
Mean	4.3	5.9	7.7	11.5	16.8	9.0
Base	*66*	*69*	*79*	*52*	*64*	*330*
Wales						
0	—	1	1	—	—	1
1 – 5	54	50	28	8	—	34
6 – 11	42	34	45	29	22	36
12 – 17	3	11	18	32	24	15
18 or more	1	4	8	31	54	14
Total	100	100	100	100	100	100
Mean	6.0	6.9	9.0	14.7	18.2	9.6
Base	*72*	*94*	*77*	*48*	*36*	*326*

continued

Table B11 Distribution of the numbers of missing teeth among dentate adults in different regions by sex

England and Wales

Number of missing teeth	Region							
	Northern		Midlands		Southern			Wales
	North West	North & North East	West Mids	East Mids	South West	North Thames	South Thames	
	%	%	%	%	%	%	%	%
Males								
0	2	5	5	6	1	6	2	1
1–5	30	40	30	37	36	42	40	35
6–11	36	41	34	35	34	28	28	35
12–17	16	8	17	11	13	12	11	15
18 or more	16	6	14	11	16	12	19	14
Total	100	100	100	100	100	100	100	100
Mean	9.8	7.3	9.1	8.1	9.6	8.1	9.7	9.6
Base	*165*	*153*	*138*	*166*	*198*	*179*	*177*	*163*
Females								
0	1	1	1	3	5	4	3	1
1–5	25	36	34	35	42	45	46	32
6–11	42	38	39	37	28	28	27	37
12–17	17	12	10	12	14	13	14	16
18 or more	15	13	16	13	11	10	10	14
Total	100	100	100	100	100	100	100	100
Mean	10.0	9.1	9.1	8.8	8.1	7.8	8.2	9.7
Base	*138*	*164*	*128*	*158*	*225*	*208*	*153*	*163*
Both sexes								
0	1	2	3	4	3	5	2	1
1–5	28	38	32	36	39	43	43	34
6–11	39	40	37	36	31	29	28	36
12–17	16	10	13	12	14	12	12	15
18 or more	16	10	15	12	13	11	15	14
Total	100	100	100	100	100	100	100	100
Mean	9.9	8.2	9.1	8.4	8.8	7.9	9.0	9.6
Base	*303*	*317*	*266*	*324*	*423*	*387*	*330*	*326*

Table B12 Distribution of the numbers of missing teeth among dentate adults in different regions by social class

England and Wales

Number of missing teeth	Region							
	Northern		Midlands		Southern			Wales
	North West	North & North East	West Mids	East Mids	South West	North Thames	South Thames	
	%	%	%	%	%	%	%	%
I, II, IIIN								
0	3	2	4	4	5	4	3	2
1–5	28	34	35	35	40	48	44	41
6–11	44	43	33	38	32	30	33	30
12–17	13	12	11	11	11	10	8	16
18 or more	12	9	17	12	12	8	12	11
Total	100	100	100	100	100	100	100	100
Mean	9.0	8.3	9.1	8.5	8.2	7.2	8.2	8.9
Base	*113*	*113*	*100*	*113*	*172*	*200*	*153*	*129*
IIIM								
0	1	3	4	5	2	6	1	—
1–5	23	44	30	36	42	37	42	29
6–11	36	36	38	35	28	27	23	46
12–17	24	9	14	10	17	18	19	15
18 or more	16	8	14	14	11	12	15	10
Total	100	100	100	100	100	100	100	100
Mean	10.8	7.6	9.0	8.7	8.7	8.7	9.6	9.2
Base	*104*	*113*	*110*	*121*	*149*	*101*	*107*	*116*
IV, V								
0	—	1	—	3	3	8	—	—
1–5	32	38	30	30	37	31	48	29
6–11	37	42	36	38	31	25	18	36
12–17	16	8	18	18	15	19	11	13
18 or more	15	11	16	11	14	17	23	22
Total	100	100	100	100	100	100	100	100
Mean	9.7	8.6	9.9	8.6	9.2	9.4	10.1	10.6
Base	*62*	*72*	*44*	*73*	*68*	*48*	*44*	*63*

Table B13 Distribution of the numbers of missing teeth among dentate adults in different regions by attendance pattern

England and Wales

Number of missing teeth	Region							
	Northern		Midlands		Southern			Wales
	North West	North & North East	West Mids	East Mids	South West	North Thames	South Thames	
	%	%	%	%	%	%	%	%
Those who attend for a regular check-up								
0	1	3	3	4	4	2	2	1
1 – 5	36	41	35	40	46	48	48	39
6 – 11	47	45	38	38	33	34	33	40
12 – 17	12	8	12	8	10	10	11	13
18 or more	4	3	12	10	7	6	6	7
Total	100	100	100	100	100	100	100	100
Mean	7.5	6.9	8.5	7.8	7.2	7.2	7.4	8.3
Base	*113*	*145*	*120*	*162*	*215*	*175*	*161*	*135*
Those who attend only when having trouble with their teeth								
0	2	2	3	3	1	5	2	1
1 – 5	21	37	27	29	26	35	39	26
6 – 11	32	32	36	38	29	24	22	31
12 – 17	22	12	16	15	20	17	13	18
18 or more	23	17	18	15	24	19	24	24
Total	100	100	100	100	100	100	100	100
Mean	12.0	9.8	10.0	9.6	11.7	9.9	10.5	11.4
Base	*153*	*129*	*115*	*123*	*148*	*140*	*119*	*134*

Table B14 Distribution of the numbers of sound teeth among dentate adults in the UK in different age groups by sex

United Kingdom

Number of sound teeth	Age					
	16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
Males						
0	—	1	—	1	6	2
1 – 5	3	8	9	12	28	11
6 – 11	14	20	36	48	34	29
12 – 17	29	39	32	27	22	30
18 or more	54	32	23	12	10	28
Total	100	100	100	100	100	100
Mean	17.4	14.7	13.0	10.8	8.8	13.4
Base	*319*	*313*	*310*	*230*	*225*	*1398*
Females						
0	—	1	1	3	3	1
1 – 5	2	6	11	14	22	9
6 – 11	16	33	47	50	46	36
12 – 17	36	38	28	24	21	32
18 or more	46	22	13	9	8	22
Total	100	100	100	100	100	100
Mean	16.8	13.2	11.1	9.9	9.1	12.7
Base	*327*	*412*	*279*	*190*	*178*	*1386*
Both sexes						
0	—	1	1	2	5	1
1 – 5	2	6	10	13	25	10
6 – 11	15	28	41	49	40	32
12 – 17	33	39	30	25	21	32
18 or more	50	26	18	11	9	25
Total	100	100	100	100	100	100
Mean	17.1	13.9	12.1	10.4	9.0	13.0
Base	*646*	*724*	*589*	*419*	*403*	*2784*

Table B15 Distribution of the numbers of sound teeth among dentate adults in England in different age groups by sex

England

Number of sound teeth	Age					
	16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
Males						
0	—	2	—	2	5	2
1 – 5	2	7	8	10	27	10
6 – 11	13	18	35	48	34	28
12 – 17	28	39	33	28	23	30
18 or more	57	34	24	12	11	30
Total	100	100	100	100	100	100
Mean	17.8	15.0	13.4	11.0	9.1	13.6
Base	*267*	*253*	*261*	*200*	*194*	*1176*
Females						
0	—	1	1	2	3	1
1 – 5	2	4	10	15	22	9
6 – 11	15	32	46	48	45	35
12 – 17	35	40	29	25	21	32
18 or more	48	23	14	10	9	23
Total	100	100	100	100	100	100
Mean	17.3	13.5	11.3	10.1	9.2	12.9
Base	*270*	*349*	*235*	*163*	*157*	*1174*
Both sexes						
0	—	1	—	2	4	1
1 – 5	2	6	9	12	25	9
6 – 11	14	26	40	48	39	31
12 – 17	31	39	31	27	22	32
18 or more	53	28	20	11	10	27
Total	100	100	100	100	100	100
Mean	17.5	14.1	12.4	10.6	9.2	13.2
Base	*537*	*602*	*496*	*363*	*351*	*2350*

Table B16 Distribution of the numbers of sound teeth among dentate adults in Scotland in different age groups by sex

Scotland

Number of sound teeth	Age 16–24	25–34	35–44	45–54	55 and over	All ages
	%	%	%	%	%	%
Males						
0	—	—	1	—	4	1
1–5	4	10	16	20	36	15
6–11	13	32	45	54	42	34
12–17	45	38	29	24	16	33
18 or more	38	20	9	2	2	17
Total	100	100	100	100	100	100
Mean	16.1	12.8	10.2	9.0	7.0	11.8
Base	*95*	*97*	*77*	*46*	*55*	*370*
Females						
0	2	1	3	2	5	2
1–5	4	18	22	20	15	15
6–11	27	41	55	50	65	42
12–17	38	24	15	25	15	26
18 or more	29	16	5	3	—	15
Total	100	100	100	100	100	100
Mean	14.0	10.9	8.5	8.7	8.1	10.9
Base	*116*	*115*	*67*	*40*	*40*	*378*
Both sexes						
0	1	—	2	1	4	2
1–5	4	15	19	20	27	15
6–11	20	37	50	53	52	38
12–17	42	31	22	24	16	29
18 or more	33	17	7	2	1	16
Total	100	100	100	100	100	100
Mean	15.0	11.8	9.4	8.8	7.5	11.3
Base	*211*	*212*	*144*	*86*	*95*	*748*

Table B17 Distribution of the numbers of sound teeth among dentate adults in the UK in different age groups by social class

United Kingdom

Number of sound teeth	Age 16–24	25–34	35–44	45–54	55 and over	All ages
	%	%	%	%	%	%
I, II, IIIN						
0	—	1	—	1	6	1
1–5	2	5	11	16	25	11
6–11	20	31	44	50	40	37
12–17	32	41	33	25	20	32
18 or more	46	22	12	8	9	19
Total	100	100	100	100	100	100
Mean	16.4	13.3	11.1	9.9	8.8	12.1
Base	*207*	*302*	*255*	*192*	*180*	*1136*
IIIM						
0	—	—	1	3	2	1
1–5	4	8	9	10	22	9
6–11	15	26	38	49	40	31
12–17	31	40	28	25	26	31
18 or more	50	26	24	13	10	28
Total	100	100	100	100	100	100
Mean	16.9	13.8	12.9	10.8	9.6	13.4
Base	*231*	*264*	*205*	*135*	*115*	*950*
IV, V						
0	1	2	1	4	2	2
1–5	1	6	7	9	24	8
6–11	13	24	38	44	39	28
12–17	37	30	29	30	27	31
18 or more	48	38	25	13	8	31
Total	100	100	100	100	100	100
Mean	17.5	15.0	13.3	11.0	9.4	14.0
Base	*134*	*120*	*104*	*70*	*65*	*494*

Table B18 Distribution of the numbers of sound teeth among adults in England in different age groups by social class

England

Number of sound teeth	Age 16–24	25–34	35–44	45–54	55 and over	All ages
	%	%	%	%	%	%
I, II, IIIN						
0	—	1	—	1	6	1
1–5	2	5	10	15	24	10
6–11	19	29	44	49	38	35
12–17	31	42	34	26	22	34
18 or more	48	23	12	9	10	20
Total	100	100	100	100	100	100
Mean	16.7	13.5	11.3	10.1	9.0	12.3
Base	*172*	*255*	*212*	*169*	*156*	*964*
IIIM						
0	—	—	1	3	2	1
1–5	3	6	9	10	20	8
6–11	14	25	36	49	40	31
12–17	29	42	28	25	27	31
18 or more	54	27	26	13	11	29
Total	100	100	100	100	100	100
Mean	17.5	14.1	13.3	10.8	9.8	13.7
Base	*190*	*217*	*176*	*118*	*104*	*805*
IV, V						
0	1	2	—	3	2	2
1–5	1	5	7	9	26	7
6–11	12	22	36	40	36	27
12–17	36	29	31	32	27	32
18 or more	50	42	26	16	9	32
Total	100	100	100	100	100	100
Mean	17.8	15.4	13.7	11.5	9.4	14.3
Base	*111*	*99*	*88*	*57*	*55*	*411*

Table B19 Distribution of the numbers of sound teeth among dentate adults in Scotland in different age groups by social class

Scotland

Number of sound teeth	Age 16–24	25–34	35–44	45–54	55 and over	All ages
	%	%	%	%	%	%
I, II, III						
0	1	1	1	3	5	2
1–5	1	9	17	25	27	14
6–11	27	48	56	50	53	46
12–17	41	33	19	22	13	27
18 or more	30	9	7	—	2	11
Total	100	100	100	100	100	100
Mean	14.7	10.8	9.3	8.3	7.2	10.4
Base	*70*	*78*	*69*	*36*	*55*	*308*
IIIM						
0	1	—	2	*	*	1
1–5	9	17	16	*	*	16
6–11	17	31	47	*	*	33
12–17	42	29	27	*	*	31
18 or more	31	23	8	*	*	19
Total	100	100	100			100
Mean	14.3	12.4	10.2	*	*	11.8
Base	*75*	*86*	*49*	*29*	*19*	*258*
IV, V						
0	—	—	*	*	*	1
1–5	2	21	*	*	*	14
6–11	15	34	*	*	*	33
12–17	45	27	*	*	*	33
18 or more	38	18	*	*	*	19
Total	100	100				100
Mean	15.8	11.2	*	*	*	11.9
Base	*47*	*38*	*24*	*16*	*15*	*140*

* *Means and percentages not given for bases under 30.*

Table B20 Distribution of the numbers of sound teeth among dentate adults in the UK in different age groups by attendance pattern

United Kingdom

Number of sound teeth	Age 16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
Those who attend for a regular check-up						
0	—	1	—	1	6	1
1 – 5	2	8	10	15	20	9
6 – 11	20	35	49	50	46	39
12 – 17	39	41	31	28	23	34
18 or more	39	15	10	6	5	17
Total	100	100	100	100	100	100
Mean	15.7	12.2	10.7	9.8	8.7	11.9
Base	*299*	*353*	*293*	*183*	*142*	*1270*
Those who attend only when having trouble with their teeth						
0	1	1	1	2	4	2
1 – 5	3	5	11	12	29	12
6 – 11	11	20	30	45	34	27
12 – 17	24	36	29	25	22	28
18 or more	61	38	29	16	11	31
Total	100	100	100	100	100	100
Mean	18.5	15.7	13.7	11.1	8.9	13.7
Base	*228*	*252*	*221*	*192*	*220*	*1113*

Table B21 Distribution of the numbers of sound teeth among dentate adults in England in different age groups by attendance pattern

England

Number of sound teeth	Age 16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
Those who attend for a regular check-up						
0	—	1	—	1	5	1
1 – 5	2	7	9	15	18	9
6 – 11	19	33	49	49	47	37
12 – 17	37	43	32	29	24	35
18 or more	42	16	10	6	6	18
Total	100	100	100	100	100	100
Mean	16.1	12.4	10.9	10.0	8.9	12.2
Base	*251*	*302*	*249*	*163*	*126*	*1091*
Those who attend only when having trouble with their teeth						
0	—	1	—	3	3	1
1 – 5	3	4	9	10	30	11
6 – 11	9	18	29	44	33	26
12 – 17	22	36	31	26	23	28
18 or more	66	41	31	17	11	34
Total	100	100	100	100	100	100
Mean	19.0	16.1	14.3	11.4	9.1	14.1
Base	*186*	*203*	*186*	*163*	*188*	*927*

Table B22 Distribution of the numbers of sound teeth among dentate adults in Scotland in different age groups by attendance pattern

Scotland

Number of sound teeth	Age 16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
Those who attend for a regular check-up						
0	1	—	—	3	9	2
1 – 5	6	19	17	21	29	16
6 – 11	29	48	60	58	47	46
12 – 17	40	27	20	18	15	27
18 or more	24	6	3	—	—	9
Total	100	100	100	100	100	100
Mean	13.4	9.8	8.9	8.0	7.1	10.2
Base	*87*	*78*	*64*	*33*	*34*	*296*
Those who attend only when having trouble with their teeth						
0	1	—	4	—	—	1
1 – 5	4	15	25	22	28	17
6 – 11	14	28	41	45	53	32
12 – 17	41	33	19	28	17	30
18 or more	40	24	11	5	2	20
Total	100	100	100	100	100	100
Mean	15.9	12.7	9.2	9.2	7.9	11.7
Base	*88*	*93*	*56*	*40*	*54*	*331*

Table B23 **Distribution of the numbers of sound teeth among dentate adults in different age groups by region**

England and Wales

Number of sound teeth	Age 16–24	25–34	35–44	45–54	55 and over	All ages
	%	%	%	%	%	%
North West						
0	—	—	—	4	5	1
1–5	1	4	5	10	30	8
6–11	11	20	34	57	40	30
12–17	33	40	45	23	20	34
18 or more	55	36	16	6	5	27
Total	100	100	100	100	100	100
Mean	17.4	15.3	12.9	9.5	7.8	13.3
Base	*70*	*75*	*67*	*51*	*40*	*303*
North and North East						
0	—	—	—	—	4	—
1–5	4	4	13	15	35	10
6–11	15	30	38	38	32	29
12–17	41	38	30	36	11	35
18 or more	40	28	19	11	18	26
Total	100	100	100	100	100	100
Mean	15.7	14.6	11.9	10.7	9.2	13.3
Base	*78*	*101*	*63*	*47*	*28*	*317*
West Midlands						
0	—	2	—	—	4	1
1–5	2	2	6	7	15	6
6–11	12	17	40	48	43	31
12–17	29	45	21	21	30	30
18 or more	57	34	33	24	8	32
Total	100	100	100	100	100	100
Mean	19.0	15.1	14.4	12.9	9.7	14.4
Base	*51*	*59*	*67*	*42*	*47*	*266*
East Midlands						
0	—	—	—	2	—	0
1–5	1	9	5	14	18	8
6–11	11	28	34	47	33	28
12–17	30	38	36	21	36	33
18 or more	58	25	25	16	13	31
Total	100	100	100	100	100	100
Mean	18.3	13.5	14.0	10.7	11.1	14.2
Base	*86*	*88*	*61*	*43*	*45*	*324*

Table B23 **Distribution of the numbers of sound teeth among dentate adults in different age groups by region — *continued***

England and Wales

Number of sound teeth	Age 16–24	25–34	35–44	45–54	55 and over	All ages
	%	%	%	%	%	%
South West						
0	—	2	1	—	3	1
1–5	3	9	7	13	28	10
6–11	19	24	45	45	43	34
12–17	30	42	28	33	21	32
18 or more	48	23	19	9	5	23
Total	100	100	100	100	100	100
Mean	17.4	13.4	11.9	11.0	8.8	12.9
Base	*95*	*107*	*93*	*70*	*58*	*423*
North Thames						
0	—	2	1	3	4	2
1–5	2	3	14	12	23	10
6–11	10	29	35	59	37	31
12–17	29	40	42	21	23	32
18 or more	59	26	8	5	13	25
Total	100	100	100	100	100	100
Mean	18.0	14.2	11.3	9.2	9.6	13.0
Base	*91*	*103*	*66*	*58*	*69*	*387*
South Thames						
0	2	3	—	4	8	3
1–5	—	7	14	15	28	13
6–11	18	30	48	42	41	36
12–17	27	35	20	25	14	24
18 or more	53	25	18	14	9	24
Total	100	100	100	100	100	100
Mean	17.2	12.8	11.1	10.7	8.1	12.0
Base	*66*	*69*	*79*	*52*	*64*	*330*
Wales						
0	—	—	1	2	5	1
1–5	1	3	7	10	27	7
6–11	13	32	37	55	44	34
12–17	35	34	33	25	16	31
18 or more	51	31	22	8	8	27
Total	100	100	100	100	100	100
Mean	17.4	14.4	12.9	10.0	8.0	13.3
Base	*72*	*94*	*77*	*48*	*36*	*326*

Table B24 Distribution of the numbers of sound teeth among dentate adults in different regions by sex

England and Wales

Number of sound teeth	Region							
	Northern		Midlands		Southern			Wales
	North West	North & North East	West Mids	East Mids	South West	North Thames	South Thames	
	%	%	%	%	%	%	%	%
Males								
0	1	1	1	1	1	2	4	1
1 – 5	10	10	4	7	13	11	14	8
6 – 11	30	21	31	22	33	26	31	28
12 – 17	30	34	29	34	30	34	23	32
18 or more	29	34	35	36	23	27	28	31
Total	100	100	100	100	100	100	100	100
Mean	13.4	14.6	14.8	14.8	12.7	13.3	12.2	14.0
Base	*165*	*153*	*138*	*166*	*198*	*179*	*177*	*163*
Females								
0	2	—	1	—	1	2	2	1
1 – 5	6	10	8	9	8	8	12	7
6 – 11	29	37	31	33	31	36	40	39
12 – 17	39	35	30	32	30	30	26	29
18 or more	24	18	30	26	30	24	20	24
Total	100	100	100	100	100	100	100	100
Mean	13.1	12.0	14.0	13.5	14.0	12.9	11.7	12.7
Base	*138*	*164*	*128*	*158*	*128*	*208*	*153*	*163*
Both sexes								
0	1	—	1	—	1	2	3	1
1 – 5	8	10	6	8	10	10	13	7
6 – 11	30	29	31	28	34	31	36	34
12 – 17	34	35	30	33	32	32	24	31
18 or more	27	26	32	31	23	25	24	27
Total	100	100	100	100	100	100	100	100
Mean	13.3	13.3	14.4	14.2	12.9	13.0	12.0	13.3
Base	*303*	*317*	*266*	*324*	*423*	*387*	*330*	*326*

Table B25 Distribution of the numbers of sound teeth among dentate adults in different regions by social class

England and Wales

Number of sound teeth	Region							
	Northern		Midlands		Southern			Wales
	North West	North & North East	West Mids	East Mids	South West	North Thames	South Thames	
	%	%	%	%	%	%	%	%
I, II, IIIN								
0	1	—	3	1	1	2	3	—
1–5	8	11	8	9	13	10	12	10
6–11	34	40	35	36	34	33	37	37
12–17	38	35	35	33	28	35	25	33
18 or more	19	14	19	21	24	20	23	20
Total	100	100	100	100	100	100	100	100
Mean	12.4	11.7	12.6	12.6	12.5	12.6	11.7	12.4
Base	*113*	*113*	*100*	*113*	*172*	*200*	*183*	*129*
IIIM								
0	2	—	—	—	1	2	4	1
1–5	7	9	5	8	7	12	12	5
6–11	31	23	27	31	34	28	38	28
12–17	34	36	32	29	36	28	23	32
18 or more	26	32	36	32	22	30	23	34
Total	100	100	100	100	100	100	100	100
Mean	13.1	14.2	15.3	14.2	13.3	13.3	12.1	14.4
Base	*104*	*113*	*110*	*121*	*149*	*101*	*107*	*116*
IV, V								
0	—	1	—	—	3	4	2	5
1–5	8	10	7	4	6	10	9	3
6–11	18	24	36	15	35	29	39	33
12–17	35	33	11	43	34	32	23	27
18 or more	39	32	46	38	22	25	27	32
Total	100	100	100	100	100	100	100	100
Mean	15.2	14.0	15.5	16.1	13.4	13.1	12.5	13.8
Base	*62*	*72*	*44*	*73*	*68*	*48*	*44*	*63*

Table B26 Distribution of the numbers of sound teeth among dentate adults in different regions by attendance pattern

England and Wales

Number of sound teeth	Region							
	Northern		Midlands		Southern			Wales
	North West	North & North East	West Mids	East Mids	South West	North Thames	South Thames	
	%	%	%	%	%	%	%	%
Those who attend for a regular check-up								
0	2	—	2	—	2	2	1	—
1–5	4	8	4	10	8	11	12	7
6–11	35	38	42	33	38	31	44	42
12–17	37	35	39	36	34	38	27	30
18 or more	22	19	13	21	18	18	16	21
Total	100	100	100	100	100	100	100	100
Mean	12.6	12.4	12.1	12.8	12.1	12.2	11.1	12.1
Base	*113*	*145*	*120*	*162*	*215*	*175*	*161*	*135*
Those who attend only when having trouble with their teeth								
0	1	1	1	—	1	4	3	3
1–5	11	12	10	7	14	11	13	10
6–11	25	22	21	21	29	32	29	27
12–17	35	33	22	29	27	26	20	25
18 or more	28	32	46	43	29	27	35	35
Total	100	100	100	100	100	100	100	100
Mean	13.5	14.1	16.0	15.5	13.5	12.8	13.4	14.0
Base	*153*	*129*	*115*	*123*	*148*	*140*	*119*	*134*

Table B27 Distribution of the numbers of filled (otherwise sound) teeth among dentate adults in the UK in different age groups by sex

United Kingdom

Number of filled (otherwise sound) teeth	Age					
	16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
Males						
0	11	15	17	16	29	17
1 – 5	28	20	19	31	37	26
6 – 11	41	32	31	32	24	33
12 or more	20	33	33	21	10	24
Total	100	100	100	100	100	100
Mean	7.4	8.6	8.4	6.8	4.3	7.3
Base	*319*	*313*	*310*	*230*	*225*	*1398*
Females						
0	8	6	14	16	22	11
1 – 5	24	12	15	23	35	20
6 – 11	38	34	29	35	29	34
12 or more	30	48	42	26	14	35
Total	100	100	100	100	100	100
Mean	8.5	10.8	9.6	7.6	5.5	8.9
Base	*327*	*412*	*279*	*190*	*178*	*1386*
Both sexes						
0	9	10	15	16	26	14
1 – 5	26	16	17	27	36	23
6 – 11	40	32	30	34	26	33
12 or more	25	42	38	23	12	30
Total	100	100	100	100	100	100
Mean	8.0	9.8	8.9	7.1	4.8	8.1
Base	*646*	*724*	*589*	*419*	*403*	*2784*

Table B28 Distribution of the numbers of filled (otherwise sound) teeth among dentate adults in England in different age groups by sex

England

Number of filled (otherwise sound) teeth	Age					
	16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
Males						
0	11	15	17	14	27	16
1 – 5	27	19	19	31	38	26
6 – 11	43	32	31	33	25	34
12 or more	19	34	33	22	10	24
Total	100	100	100	100	100	100
Mean	7.3	8.6	8.4	6.9	4.4	7.3
Base	*267*	*253*	*261*	*200*	*194*	*1176*
Females						
0	8	5	14	14	22	11
1 – 5	25	11	15	24	36	20
6 – 11	37	34	29	37	29	34
12 or more	30	50	42	25	13	35
Total	100	100	100	100	100	100
Mean	8.4	10.9	9.6	7.6	5.5	8.9
Base	*270*	*349*	*235*	*163*	*157*	*1174*
Both sexes						
0	9	10	15	13	25	14
1 – 5	26	15	17	28	36	23
6 – 11	40	33	31	35	27	33
12 or more	25	42	37	24	12	30
Total	100	100	100	100	100	100
Mean	7.8	10.0	9.0	7.2	4.9	8.1
Base	*537*	*602*	*496*	*363*	*351*	*2350*

Table B29 Distribution of the numbers of filled (otherwise sound) teeth among dentate adults in Scotland in different age groups by sex

Scotland

Number of filled (otherwise sound) teeth	Age					
	16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
Males						
0	12	11	17	26	38	18
1 – 5	29	26	26	26	29	27
6 – 11	35	29	22	31	18	28
12 or more	24	34	35	17	15	27
Total	100	100	100	100	100	100
Mean	7.4	8.4	8.0	6.0	4.2	7.2
Base	*95*	*97*	*77*	*46*	*55*	*370*
Females						
0	3	13	15	20	27	13
1 – 5	21	15	19	20	25	19
6 – 11	44	28	16	30	25	30
12 or more	32	44	50	30	23	38
Total	100	100	100	100	100	100
Mean	9.2	10.0	9.4	8.0	6.3	9.1
Base	*116*	*115*	*67*	*40*	*40*	*378*
Both sexes						
0	7	12	16	23	34	16
1 – 5	25	20	23	23	27	23
6 – 11	40	28	19	31	21	29
12 or more	28	40	42	23	18	32
Total	100	100	100	100	100	100
Mean	8.4	9.3	8.7	7.0	5.1	8.1
Base	*211*	*212*	*144*	*86*	*95*	*748*

Table B30 Distribution of the numbers of filed (otherwise sound) teeth among dentate adults in the UK in different age groups by social class

United Kingdom

Number of filled (otherwise sound) teeth	Age					
	16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
I, II, IIIN						
0	5	3	7	6	12	6
1 – 5	19	10	9	20	38	18
6 – 11	42	34	30	40	32	35
12 or more	34	53	54	34	18	41
Total	100	100	100	100	100	100
Mean	9.4	11.6	11.5	9.2	6.3	9.9
Base	*207*	*302*	*255*	*192*	*180*	*1136*
IIIM						
0	10	10	19	22	42	17
1 – 5	29	17	24	36	34	26
6 – 11	35	34	33	30	20	32
12 or more	26	39	24	12	4	25
Total	100	100	100	100	100	100
Mean	8.1	9.4	7.2	5.2	3.2	7.3
Base	*231*	*264*	*205*	*135*	*115*	*950*
IV, V						
0	17	25	25	27	35	25
1 – 5	27	22	27	27	41	28
6 – 11	38	29	26	28	20	29
12 or more	18	24	22	18	4	18
Total	100	100	100	100	100	100
Mean	6.4	6.8	6.2	5.7	3.3	5.9
Base	*134*	*120*	*104*	*70*	*65*	*494*

Table B31 Distribution of the numbers of filled (otherwise sound) teeth among dentate adults in England in different age groups by social class

England

Number of filled (otherwise sound) teeth	Age 16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
I, II, IIIN						
0	4	3	7	5	11	6
1 – 5	20	10	9	21	38	18
6 – 11	44	35	28	40	33	36
12 or more	32	52	56	34	18	40
Total	100	100	100	100	100	100
Mean	9.3	11.5	11.6	9.2	6.3	9.9
Base	*172*	*255*	*212*	*169*	*156*	*964*
IIIM						
0	10	9	19	20	41	17
1 – 5	29	17	23	37	34	26
6 – 11	35	34	36	31	21	33
12 or more	26	40	22	12	4	24
Total	100	100	100	100	100	100
Mean	8.0	9.6	7.2	5.3	3.2	7.2
Base	*190*	*217*	*176*	*118*	*104*	*805*
IV, V						
0	19	24	26	23	31	24
1 – 5	26	21	25	26	41	27
6 – 11	37	30	25	33	22	29
12 or more	18	25	24	18	6	20
Total	100	100	100	100	100	100
Mean	6.3	7.0	6.2	6.1	3.6	6.1
Base	*111*	*99*	*88*	*57*	*55*	*411*

Table B36 Distribution of the numbers of filled (otherwise sound) teeth among dentate adults in Scotland in different age groups by social class

Scotland

Number of filled otherwise sound) teeth	Age 16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
I, II, IIIN						
0	6	—	6	8	22	8
1 – 5	16	11	14	11	25	16
6 – 11	38	27	20	42	25	29
12 or more	40	62	60	39	28	47
Total	100	100	100	100	100	100
Mean	9.8	12.8	11.7	10.2	6.8	10.5
Base	*70*	*78*	*69*	*36*	*55*	*308*
IIIM						
0	9	15	27	*	*	20
1 – 5	27	25	24	*	*	27
6 – 11	40	28	20	*	*	28
12 or more	24	32	29	*	*	25
Total	100	100	100			100
Mean	7.8	8.0	6.2	*	*	6.8
Base	*75*	*86*	*49*	*29*	*19*	*258*
IV, V						
0	6	29	*	*	*	25
1 – 5	28	21	*	*	*	31
6 – 11	47	32	*	*	*	30
12 or more	19	18	*	*	*	14
Total	100	100				100
Mean	7.8	5.6	*	*	*	5.5
Base	*47*	*38*	*24*	*16*	*15*	*140*

* *Means and percentages not given for bases under 30.*

Table B33 Distribution of the numbers of filled (otherwise sound) teeth among dentate adults in the UK in different age groups by attendance pattern

United Kingdom

Number of filled (otherwise sound) teeth	Age 16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
Those who attend for a regular check-up						
0	1	1	—	—	2	1
1 – 5	17	5	6	15	29	12
6 – 11	47	31	35	43	42	39
12 or more	35	63	59	42	27	48
Total	100	100	100	100	100	100
Mean	10.0	13.0	12.6	10.6	8.6	11.4
Base	*299*	*353*	*293*	*183*	*142*	*1270*
Those who attend only when having trouble with their teeth						
0	19	24	36	32	43	31
1 – 5	39	30	28	40	41	35
6 – 11	27	28	24	23	13	23
12 or more	15	18	12	5	3	11
Total	100	100	100	100	100	100
Mean	5.6	5.7	4.6	3.6	2.4	4.4
Base	*228*	*252*	*221*	*192*	*220*	*1113*

Table B34 Distribution of the numbers of filled (otherwise sound) teeth among dentate adults in England in different age groups by attendance pattern

England

Number of filled (otherwise sound) teeth	Age 16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
Those who attend for a regular check-up						
0	2	1	—	—	1	1
1 – 5	17	5	6	15	29	12
6 – 11	47	32	35	44	44	39
12 or more	34	62	59	41	26	48
Total	100	100	100	100	100	100
Mean	9.8	12.9	12.6	10.5	8.6	11.3
Base	*251*	*302*	*249*	*163*	*126*	*1091*
Those who attend only when having trouble with their teeth						
0	19	24	35	29	43	30
1 – 5	39	30	28	42	41	36
6 – 11	28	28	24	24	13	23
12 or more	14	18	13	5	3	11
Total	100	100	100	100	100	100
Mean	5.5	5.9	4.6	3.8	2.4	4.4
Base	*186*	*203*	*186*	*163*	*188*	*927*

Table B35 Distribution of the numbers of filled (otherwise sound) teeth among dentate adults in Scotland in different age groups by attendance pattern

Scotland

Number of filled (otherwise sound) teeth	Age 16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
Those who attend for a regular check-up						
0	—	—	—	—	9	1
1 – 5	9	6	12	18	26	12
6 – 11	44	21	17	30	29	29
12 or more	47	73	71	52	36	58
Total	100	100	100	100	100	100
Mean	11.2	14.1	13.0	11.4	8.7	12.1
Base	*87*	*78*	*64*	*33*	*34*	*296*
Those who attend only when having trouble with their teeth						
0	16	26	36	48	48	31
1 – 5	38	32	35	30	28	33
6 – 11	33	27	18	20	17	25
12 or more	13	15	11	2	7	11
Total	100	100	100	100	100	100
Mean	5.8	5.2	3.9	2.8	2.9	4.5
Base	*88*	*93*	*56*	*40*	*54*	*331*

Table B36 Distribution of the number of filled (otherwise sound) teeth among dentate adults in different age groups by region

England and Wales

Number of filled (otherwise sound) teeth	Age 16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
North West						
0	7	23	21	18	32	19
1 – 5	27	20	24	33	38	27
6 – 11	51	28	33	33	18	34
12 or more	15	29	22	16	12	20
Total	100	100	100	100	100	100
Mean	7.2	7.0	6.8	6.1	4.2	6.5
Base	*70*	*75*	*67*	*51*	*40*	*303*
North and North East						
0	10	17	19	28	32	19
1 – 5	34	22	24	23	36	26
6 – 11	31	32	33	30	25	32
12 or more	25	29	24	19	7	23
Total	100	100	100	100	100	100
Mean	7.8	7.8	7.4	6.0	4.3	7.2
Base	*78*	*101*	*63*	*47*	*28*	*317*
West Midlands						
0	18	12	30	17	36	23
1 – 5	27	12	19	29	32	23
6 – 11	24	30	21	35	21	26
12 or more	31	46	30	19	11	28
Total	100	100	100	100	100	100
Mean	7.2	9.8	7.1	6.6	4.1	7.1
Base	*51*	*59*	*67*	*42*	*47*	*266*
East Midlands						
0	11	10	16	25	36	17
1 – 5	26	15	28	19	38	24
6 – 11	44	30	33	32	24	34
12 or more	19	45	23	24	2	25
Total	100	100	100	100	100	100
Mean	7.2	10.0	6.8	7.0	3.5	7.3
Base	*86*	*88*	*61*	*43*	*45*	*324*

continued

Table B36 Distribution of the numbers of filled (otherwise sound) teeth among dentate adults in different age groups by region—*continued*

England and Wales

Number of filled (otherwise sound) teeth	Age 16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
South West						
0	11	6	9	7	24	10
1 – 5	21	7	15	33	36	20
6 – 11	41	38	29	40	31	36
12 or more	27	49	47	20	9	34
Total	100	100	100	100	100	100
Mean	8.5	12.0	10.7	7.1	4.4	9.1
Base	*95*	*107*	*93*	*70*	*58*	*423*
North Thames						
0	7	1	4	2	9	4
1 – 5	22	17	11	29	35	22
6 – 11	46	31	35	29	34	36
12 or more	25	51	50	40	22	38
Total	100	100	100	100	100	100
Mean	8.2	10.8	10.7	9.3	7.2	9.3
Base	*91*	*103*	*66*	*58*	*69*	*387*
South Thames						
0	5	1	11	6	19	8
1 – 5	29	7	3	25	42	20
6 – 11	39	41	29	42	28	36
12 or more	27	51	57	27	11	36
Total	100	100	100	100	100	100
Mean	8.5	12.0	11.8	8.2	5.1	9.3
Base	*66*	*69*	*79*	*52*	*64*	*330*
Wales						
0	9	12	15	31	49	19
1 – 5	30	20	18	25	22	23
6 – 11	42	34	38	23	24	34
12 or more	19	34	29	21	5	24
Total	100	100	100	100	100	100
Mean	7.2	8.9	8.3	5.6	3.6	7.3
Base	*72*	*94*	*77*	*48*	*36*	*326*

Table B37 Distribution of the numbers of filled (otherwise sound) teeth among dentate adults in different regions by sex

England and Wales

Number of filled (otherwise sound) teeth	Region							
	Northern		Midlands		Southern			Wales
	North West	North & North East	West Mids	East Mids	South West	North Thames	South Thames	
	%	%	%	%	%	%	%	%
Males								
0	22	22	25	19	14	5	9	24
1–5	29	28	28	28	22	25	24	23
6–11	31	33	22	32	34	37	41	33
12 or more	18	17	25	21	30	33	26	20
Total	100	100	100	100	100	100	100	100
Mean	6.1	6.5	6.4	6.6	8.2	8.6	8.2	6.5
Base	*165*	*153*	*138*	*166*	*198*	*179*	*177*	*163*
Females								
0	15	15	20	15	7	4	8	13
1–5	25	26	17	20	19	20	16	23
6–11	37	29	30	35	38	35	29	35
12 or more	23	30	33	30	36	41	47	29
Total	100	100	100	100	100	100	100	100
Mean	6.9	7.8	7.9	8.0	9.8	10.0	10.6	8.1
Base	*138*	*164*	*128*	*158*	*225*	*208*	*153*	*163*
Both sexes								
0	19	19	23	17	10	4	8	19
1–5	27	26	23	24	20	22	20	23
6–11	34	31	26	34	37	36	36	34
12 or more	20	24	28	25	33	38	36	24
Total	100	100	100	100	100	100	100	100
Mean	6.5	7.2	7.1	7.3	9.1	9.3	9.3	7.3
Base	*303*	*317*	*266*	*324*	*423*	*387*	*330*	*326*

Table B38 Distribution of the numbers of filled (otherwise sound) teeth among dentate adults in different regions by social class

England and Wales

Number of filled (otherwise sound) teeth	Region							
	Northern		Midlands		Southern			Wales
	North West	North & North East	West Mids	East Mids	South West	North Thames	South Thames	
	%	%	%	%	%	%	%	%
I, II, IIIN								
0	9	8	14	6	4	2	3	12
1–5	19	21	17	18	18	17	16	15
6–11	39	41	25	39	36	33	39	38
12 or more	33	30	44	37	42	48	42	35
Total	100	100	100	100	100	100	100	100
Mean	8.8	8.9	9.3	9.5	10.4	10.5	10.7	9.3
Base	*113*	*113*	*100*	*113*	*172*	*200*	*153*	*129*
IIIM								
0	22	19	26	25	13	6	11	17
1–5	34	28	26	24	20	29	25	26
6–11	31	33	27	29	37	38	31	34
12 or more	13	20	21	22	30	27	33	23
Total	100	100	100	100	100	100	100	100
Mean	5.4	7.0	6.2	6.6	8.6	7.9	8.5	6.9
Base	*104*	*113*	*110*	*121*	*149*	*101*	*107*	*116*
IV, V								
0	32	35	32	22	16	8	20	27
1–5	26	32	27	32	22	29	16	35
6–11	32	17	27	31	37	34	34	27
12 or more	10	16	14	15	25	29	30	11
Total	100	100	100	100	100	100	100	100
Mean	4.4	4.7	4.9	5.5	8.1	8.1	7.3	5.2
Base	*62*	*72*	*44*	*73*	*68*	*48*	*44*	*63*

Table B39 Distribution of the numbers of filled (otherwise sound) teeth among dentate adults in different regions by attendance pattern

England and Wales

Number of filled (otherwise sound) teeth	Region							
	Northern		Midlands		Southern			Wales
	North West	North & North East	West Mids	East Mids	South West	North Thames	South Thames	
	%	%	%	%	%	%	%	%
Those who attend for a regular check-up								
0	—	1	2	1	—	1	1	1
1 – 5	13	18	16	12	9	14	6	13
6 – 11	45	39	30	44	43	35	38	45
12 or more	42	42	52	43	48	50	55	41
Total	100	100	100	100	100	100	100	100
Mean	10.5	10.6	11.0	10.5	12.0	11.2	12.5	10.8
Base	*113*	*145*	*120*	*162*	*215*	*175*	*161*	*135*
Those who attend only when having trouble with their teeth								
0	35	40	44	38	25	10	19	41
1 – 5	35	35	29	39	38	33	43	32
6 – 11	25	19	18	21	25	32	20	17
12 or more	5	6	9	2	12	25	18	10
Total	100	100	100	100	100	100	100	100
Mean	3.5	3.5	3.6	3.1	4.8	7.2	5.4	3.8
Base	*153*	*129*	*115*	*123*	*148*	*140*	*119*	*134*

Table B40 Distribution of the numbers of decayed teeth among dentate adults in the UK in different age groups by sex

United Kingdom

Number of decayed teeth	Age					
	16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
Males						
0	36	34	41	35	37	37
1 – 5	52	52	50	57	53	52
6 or more	12	14	9	8	10	11
Total	100	100	100	100	100	100
Mean	2.3	2.5	2.0	2.1	2.3	2.2
Base	*319*	*313*	*310*	*230*	*225*	*1398*
Females						
0	47	45	44	42	39	44
1 – 5	45	49	49	51	52	50
6 or more	8	6	7	7	9	6
Total	100	100	100	100	100	100
Mean	1.7	1.5	1.6	1.7	1.7	1.6
Base	*327*	*412*	*279*	*190*	*178*	*1386*
Both sexes						
0	42	40	42	39	38	40
1 – 5	48	50	49	54	53	50
6 or more	10	10	9	7	9	10
Total	100	100	100	100	100	100
Mean	2.0	1.9	1.8	1.9	2.0	1.9
Base	*646*	*724*	*589*	*419*	*403*	*2784*

Table B41 Distribution of the numbers of decayed teeth among dentate adults in England in different age groups by sex

England

Number of decayed teeth	Age					
	16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
Males						
0	37	33	41	34	37	36
1 – 5	51	53	50	57	54	53
6 or more	12	14	9	9	9	11
Total	100	100	100	100	100	100
Mean	2.3	2.6	1.9	2.1	2.2	2.2
Base	*267*	*253*	*261*	*200*	*194*	*1176*
Females						
0	47	46	43	41	39	44
1 – 5	45	48	50	51	51	49
6 or more	8	6	7	8	10	7
Total	100	100	100	100	100	100
Mean	1.7	1.5	1.6	1.7	1.7	1.6
Base	*270*	*349*	*235*	*163*	*157*	*1174*
Both sexes						
0	42	40	42	37	38	40
1 – 5	48	51	50	55	52	51
6 or more	10	9	8	8	10	9
Total	100	100	100	100	100	100
Mean	2.0	1.9	1.8	1.9	2.0	1.9
Base	*537*	*602*	*496*	*363*	*351*	*2350*

Table B42 Distribution of the numbers of decayed teeth among dentate adults in Scotland in different age groups by sex

Scotland

Number of decayed teeth	Age					
	16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
Males						
0	24	30	38	48	36	33
1 – 5	63	55	51	39	51	54
6 or more	13	15	11	13	13	13
Total	100	100	100	100	100	100
Mean	2.6	2.5	2.5	2.1	2.6	2.5
Base	*95*	*97*	*77*	*46*	*55*	*370*
Females						
0	44	34	51	55	48	44
1 – 5	46	58	40	40	47	48
6 or more	10	8	9	5	5	8
Total	100	100	100	100	100	100
Mean	1.9	1.8	1.6	1.4	1.5	1.8
Base	*116*	*115*	*67*	*40*	*40*	*378*
Both sexes						
0	35	32	44	51	41	39
1 – 5	54	57	47	40	50	51
6 or more	11	11	9	9	9	10
Total	100	100	100	100	100	100
Mean	2.2	2.2	2.1	1.8	2.1	2.1
Base	*211*	*212*	*144*	*86*	*95*	*748*

Table B43 Distribution of the numbers of decayed teeth among dentate adults in the UK in different age groups by social class

United Kingdom

Number of decayed teeth	Age					
	16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
I, II, IIIN						
0	47	45	45	41	41	44
1 – 5	46	47	50	53	54	50
6 or more	7	8	5	6	5	6
Total	100	100	100	100	100	100
Mean	1.6	1.6	1.4	1.5	1.6	1.6
Base	*207*	*302*	*255*	*192*	*180*	*1136*
IIIM						
0	41	40	40	42	31	40
1 – 5	49	52	48	48	55	50
6 or more	10	8	12	10	14	10
Total	100	100	100	100	100	100
Mean	2.1	1.9	2.1	2.0	2.6	2.1
Base	*231*	*264*	*205*	*135*	*115*	*950*
IV, V						
0	35	27	39	27	44	34
1 – 5	49	59	52	67	49	54
6 or more	16	14	9	6	7	12
Total	100	100	100	100	100	100
Mean	2.6	2.7	2.1	2.5	1.7	2.4
Base	*135*	*120*	*104*	*70*	*65*	*494*

Table B44 Distribution of the numbers of decayed teeth among dentate adults in England in different age groups by social class

England

Number of decayed teeth	Age					
	16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
I, II, IIIN						
0	46	43	45	39	39	43
1 – 5	47	48	51	55	56	51
6 or more	7	9	4	6	5	6
Total	100	100	100	100	100	100
Mean	1.6	1.7	1.4	1.6	1.6	1.6
Base	*172*	*255*	*212*	*169*	*156*	*964*
IIIM						
0	42	42	40	41	32	40
1 – 5	48	51	48	48	53	50
6 or more	10	7	12	11	15	10
Total	100	100	100	100	100	100
Mean	2.1	1.9	2.1	2.1	2.6	2.1
Base	*190*	*217*	*176*	*118*	*104*	*805*
IV, V						
0	34	28	38	27	45	34
1 – 5	50	59	53	67	49	55
6 or more	16	13	9	6	6	11
Total	100	100	100	100	100	100
Mean	2.6	2.6	2.1	2.4	1.5	2.3
Base	*111*	*99*	*88*	*57*	*55*	*411*

Table B45 Distribution of the numbers of decayed teeth among dentate adults in Scotland in different age groups by social class

Scotland

Number of decayed teeth	Age					
	16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
I, II, IIIN						
0	43	46	49	63	47	48
1 – 5	48	51	45	31	47	46
6 or more	9	3	6	6	6	6
Total	100	100	100	100	100	100
Mean	1.6	1.3	1.5	1.2	1.6	1.5
Base	*70*	*78*	*69*	*36*	*55*	*308*
IIIM						
0	29	23	37	*	*	31
1 – 5	56	63	49	*	*	56
6 or more	15	14	14	*	*	13
Total	100	100	100			100
Mean	2.9	2.4	2.7	*	*	2.6
Base	*75*	*86*	*49*	*29*	*19*	*258*
IV, V						
0	35	24	*	*	*	32
1 – 5	56	55	*	*	*	53
6 or more	9	21	*	*	*	15
Total	100	100				100
Mean	2.2	3.1	*	*	*	2.7
Base	*47*	*38*	*24*	*16*	*15*	*140*

Table B46 **Distribution of the numbers of decayed teeth among dentate adults in the UK in different age groups by attendance pattern**

United Kingdom

Number of decayed teeth	Age 16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
Those who attend for a regular check-up						
0	51	53	54	49	48	52
1 – 5	43	44	44	49	49	45
6 or more	6	3	2	2	3	3
Total	100	100	100	100	100	100
Mean	1.3	1.1	1.0	1.1	1.1	1.1
Base	*299*	*353*	*293*	*183*	*142*	*1270*
Those who attend only when having trouble with their teeth						
0	29	21	27	30	32	27
1 – 5	46	52	52	50	47	49
6 or more	25	27	21	20	21	24
Total	100	100	100	100	100	100
Mean	3.0	3.4	3.0	2.7	2.6	3.0
Base	*228*	*252*	*221*	*192*	*220*	*1113*

Table B47 **Distribution of the numbers of decayed teeth among dentate adults in England in different age groups by attendance pattern**

England

Number of decayed teeth	Age 16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
Those who attend for a regular check-up						
0	51	52	51	48	48	51
1 – 5	43	45	47	49	49	46
6 or more	6	3	2	3	3	3
Total	100	100	100	100	100	100
Mean	1.4	1.1	1.0	1.1	1.1	1.1
Base	*251*	*302*	*249*	*163*	*126*	*1091*
Those who attend only when having trouble with their teeth						
0	30	22	28	29	32	28
1 – 5	52	58	57	56	54	56
6 or more	18	20	15	15	14	16
Total	100	100	100	100	100	100
Mean	2.9	3.4	2.9	2.8	2.6	2.9
Base	*186*	*203*	*186*	*163*	*188*	*927*

Table B48 **Distribution of the numbers of decayed teeth among dentate adults in Scotland in different age groups by attendance pattern**

Scotland

Number of decayed teeth	Age 16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
Those who attend for a regular check-up						
0	46	54	69	70	50	56
1 – 5	49	45	31	30	47	42
6 or more	5	1	—	—	3	2
Total	100	100	100	100	100	100
Mean	1.2	1.0	0.6	0.6	1.5	1.0
Base	*87*	*78*	*64*	*33*	*34*	*296*
Those who attend only when having trouble with their teeth						
0	17	13	20	32	39	22
1 – 5	64	66	58	48	48	58
6 or more	19	21	22	20	13	20
Total	100	100	100	100	100	100
Mean	3.6	3.3	3.7	3.1	2.6	3.3
Base	*88*	*93*	*56*	*40*	*54*	*331*

Table B49 **Distribution of the numbers of decayed teeth among dentate adults in different age groups by region**

England and Wales

Number of decayed teeth	Age 16 – 24	25 – 34	35 – 44	45 – 54	55 and over	All ages
	%	%	%	%	%	%
North West						
0	29	25	42	25	28	30
1 – 5	56	60	52	65	57	58
6 or more	15	15	6	10	15	12
Total	100	100	100	100	100	100
Mean	2.4	2.5	1.6	2.5	3.0	2.3
Base	*70*	*75*	*67*	*51*	*40*	*303*
North and North East						
0	31	32	27	30	18	29
1 – 5	47	48	49	47	64	49
6 or more	22	20	24	23	18	22
Total	100	100	100	100	100	100
Mean	3.5	3.2	3.5	3.4	2.8	3.3
Base	*78*	*101*	*63*	*47*	*28*	*317*
West Midlands						
0	55	59	57	48	52	54
1 – 5	41	36	36	52	38	40
6 or more	4	5	7	—	10	6
Total	100	100	100	100	100	100
Mean	1.1	1.4	1.3	1.1	2.1	1.4
Base	*51*	*59*	*67*	*42*	*47*	*266*
East Midlands						
0	35	36	29	38	49	37
1 – 5	57	55	59	50	40	53
6 or more	8	9	12	12	11	10
Total	100	100	100	100	100	100
Mean	2.0	1.9	2.4	2.1	2.0	2.1
Base	*86*	*88*	*61*	*43*	*45*	*324*
South West						
0	62	50	53	47	55	54
1 – 5	33	47	45	47	40	42
6 or more	5	3	2	6	5	4
Total	100	100	100	100	100	100
Mean	1.2	1.1	1.1	1.4	1.2	1.2
Base	*95*	*107*	*93*	*70*	*58*	*423*
North Thames						
0	41	35	38	31	28	35
1 – 5	53	59	58	66	68	60
6 or more	6	6	4	3	4	5
Total	100	100	100	100	100	100
Mean	1.7	2.0	1.6	1.6	1.6	1.7
Base	*91*	*103*	*66*	*58*	*69*	*387*
South Thames						
0	39	48	43	39	31	40
1 – 5	51	46	53	57	61	53
6 or more	10	6	4	4	8	7
Total	100	100	100	100	100	100
Mean	2.1	1.3	1.4	1.6	2.0	1.7
Base	*66*	*69*	*79*	*52*	*64*	*330*
Wales						
0	49	40	52	38	35	44
1 – 5	45	50	38	58	57	48
6 or more	6	10	10	4	8	8
Total	100	100	100	100	100	100
Mean	1.4	1.8	1.8	1.6	2.2	1.7
Base	*72*	*94*	*77*	*48*	*36*	*326*

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Table B50 Distribution of the numbers of decayed teeth among dentate adults in different regions by sex

England and Wales

Number of decayed teeth	Region							
	Northern		Midlands		Southern			Wales
	North West	North & North East	West Mids	East Mids	South West	North Thames	South Thames	
	%	%	%	%	%	%	%	%
Males								
0	24	27	52	31	53	27	40	42
1 – 5	63	50	39	56	40	66	53	48
6 or more	13	23	9	13	7	7	7	10
Total	100	100	100	100	100	100	100	100
Mean	2.6	3.5	1.7	2.4	1.5	2.1	1.9	2.0
Base	*165*	*153*	*138*	*166*	*198*	*179*	*177*	*163*
Females								
0	38	32	57	42	54	41	41	47
1 – 5	50	48	41	50	44	55	54	48
6 or more	12	20	2	8	2	4	5	5
Total	100	100	100	100	100	100	100	100
Mean	1.9	3.1	1.0	1.7	0.9	1.4	1.5	1.5
Base	*138*	*164*	*128*	*158*	*225*	*208*	*153*	*163*
Both Sexes								
0	30	29	54	37	54	35	40	44
1 – 5	58	49	40	53	42	60	54	48
6 or more	12	22	6	10	4	5	6	8
Total	100	100	100	100	100	100	100	100
Mean	2.3	3.3	1.4	2.1	1.2	1.7	1.7	1.7
Base	*303*	*317*	*266*	*324*	*423*	*387*	*330*	*326*

Table B51 Distribution of the numbers of decayed teeth among dentate adults in different regions by social class

England and Wales

Number of decayed teeth	Region							
	Northern		Midlands		Southern			Wales
	North West	North & North East	West Mids	East Mids	South West	North Thames	South Thames	
	%	%	%	%	%	%	%	%
I, II, IIIN								
0	28	24	64	39	36	35	46	48
1 – 5	64	57	32	56	62	60	51	47
6 or more	8	19	4	5	2	5	3	5
Total	100	100	100	100	100	100	100	100
Mean	1.8	3.0	1.0	1.9	0.9	1.7	1.4	1.4
Base	*113*	*113*	*100*	*113*	*172*	*200*	*153*	*129*
IIIM								
0	23	36	53	34	50	38	42	42
1 – 5	62	44	41	50	45	56	50	54
6 or more	15	20	6	16	5	6	8	4
Total	100	100	100	100	100	100	100	100
Mean	2.7	3.1	1.5	2.5	1.4	2.0	1.7	1.5
Base	*104*	*113*	*110*	*121*	*149*	*101*	*107*	*116*
IV, V								
0	27	22	39	39	53	35	18	43
1 – 5	55	45	57	55	43	63	80	43
6 or more	18	33	4	6	4	2	2	14
Total	100	100	100	100	100	100	100	100
Mean	2.7	4.8	1.7	1.8	1.3	1.4	2.0	2.4
Base	*62*	*72*	*44*	*73*	*68*	*48*	*44*	*63*

Table B52 Distribution of the numbers of decayed teeth among dentate adults in different regions by attendance pattern

England and Wales

Number of decayed teeth	Region							
	Northern		Midlands		Southern			Wales
	North West	North & North East	West Mids	East Mids	South West	North Thames	South Thames	
	%	%	%	%	%	%	%	%
Those who attend for a regular check-up								
0	43	38	71	48	63	37	52	59
1 – 5	51	48	29	52	35	60	48	39
6 or more	6	14	—	—	2	3	—	2
Total	100	100	100	100	100	100	100	100
Mean	1.4	2.2	0.4	0.9	0.7	1.5	0.9	0.8
Base	*113*	*145*	*120*	*162*	*215*	*175*	*161*	*135*
Those who attend only when having trouble with their teeth								
0	22	16	39	22	43	31	25	26
1 – 5	59	54	49	52	49	62	62	58
6 or more	19	30	12	26	8	7	13	16
Total	100	100	100	100	100	100	100	100
Mean	3.1	4.6	2.4	3.8	1.9	2.2	2.7	2.9
Base	*153*	*129*	*115*	*123*	*148*	*140*	*119*	*134*

Table C1 Those from the United Kingdom who attend for a regular check-up; adults aged 16 – 34 with some natural teeth

Tooth conditions	Upper jaw															
	Left								Right							
	Molars			Premolars		Canine	Incisors				Canine	Premolars		Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Sound and untreated	22	11	4	31	32	77	58	64	61	58	76	30	29	3	11	20
Filled (otherwise sound)	23	76	63	53	45	17	30	29	31	32	17	49	50	65	74	22
Filled and decayed	1	4	5	2	1	1	3	1	2	1	1	2	3	4	4	1
Decayed, not previously treated	2	1	1	1	1	—	2	1	1	1	2	2	1	1	2	2
Unrestorable	—	—	—	1	1	—	—	—	—	1	1	—	—	—	—	—
Missing	52	8	27	12	20	5	7	5	5	7	3	17	17	27	9	55
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Lower jaw															
	Left								Right							
	Molars			Premolars		Canine	Incisors				Canine	Premolars		Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Sound and untreated	19	8	3	34	56	92	92	91	92	92	92	57	37	3	10	19
Filled (otherwise sound)	22	71	54	47	32	6	5	6	6	6	7	29	45	56	70	21
Filled and decayed	2	5	6	4	1	—	—	1	—	—	—	1	4	7	6	2
Decayed, not previously treated	2	2	1	2	1	1	1	1	1	1	1	2	1	—	1	2
Unrestorable	—	1	—	—	1	—	—	—	—	—	—	—	—	—	1	—
Missing	55	13	36	13	9	1	2	1	1	1	—	11	13	34	12	56
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Base = *652*

Table C2 Those from the United Kingdom who attend only when having trouble; adults aged 16 – 34 with some natural teeth

Tooth conditions	Upper jaw															
	Left								Right							
	Molars			Premolars		Canine	Incisors				Canine	Premolars		Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Sound and untreated	30	29	13	47	48	82	64	70	69	65	79	50	46	12	29	30
Filled (otherwise sound)	12	36	35	28	21	6	14	14	13	13	7	23	24	38	37	9
Filled and decayed	1	5	6	2	3	1	4	2	2	2	1	3	2	7	4	2
Decayed, not previously treated	4	10	5	4	5	4	6	6	6	6	5	4	5	6	11	6
Unrestorable	2	4	4	2	3	1	2	1	1	2	2	2	3	3	4	3
Missing	51	16	37	17	20	6	10	7	9	12	6	18	20	34	15	50
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Lower jaw															
	Left								Right							
	Molars			Premolars		Canine	Incisors				Canine	Premolars		Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Sound and untreated	28	20	9	55	77	93	94	93	92	94	93	75	53	10	21	28
Filled (otherwise sound)	10	37	30	17	11	2	2	3	3	2	2	13	21	31	39	12
Filled and decayed	2	6	7	3	1	—	1	—	1	—	—	1	2	5	7	1
Decayed, not previously treated	7	12	4	6	3	2	2	3	2	3	3	4	6	4	11	6
Unrestorable	2	5	4	2	1	1	—	—	—	—	1	1	2	3	4	2
Missing	51	20	46	17	7	2	1	1	2	1	1	6	16	47	18	51
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Base = 480

Table C3 Those from the United Kingdom who attend for a regular check-up; adults aged 35 or more with some natural teeth

Tooth conditions	Upper jaw															
	Left								Right							
	Molars			Premolars		Canine	Incisors				Canine	Premolars		Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Sound and untreated	5	3	2	11	16	46	39	46	43	40	48	15	10	2	4	6
Filled (otherwise sound)	29	61	40	45	42	36	35	35	36	36	35	47	44	42	60	24
Filled and decayed	1	4	3	3	2	3	2	2	3	2	2	4	2	1	3	1
Decayed, not previously treated	—	—	1	1	—	2	1	1	1	1	—	1	—	—	—	—
Unrestorable	—	1	—	1	—	—	—	—	—	—	—	—	1	—	—	—
Missing	65	31	54	39	40	13	23	16	17	21	15	33	43	55	33	69
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Lower jaw															
	Left								Right							
	Molars			Premolars		Canine	Incisors				Canine	Premolars		Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Sound and untreated	5	3	1	18	41	83	90	90	90	90	82	45	19	1	2	5
Filled (otherwise sound)	32	53	34	48	42	13	6	4	5	6	14	39	44	37	53	30
Filled and decayed	2	4	5	4	2	1	—	1	—	—	1	2	3	3	5	4
Decayed, not previously treated	1	1	—	1	2	1	1	1	1	1	1	1	1	—	1	1
Unrestorable	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—
Missing	60	39	60	29	13	2	3	4	4	3	1	13	33	59	39	60
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Base = 618

Table C4 Those from the United Kingdom who attend only when having trouble; adults aged 35 or more with some natural teeth

Tooth conditions	Upper jaw															
	Left								Right							
	Molars			Premolars		Canine	Incisors				Canine	Premolars		Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Sound and untreated	14	14	8	21	25	45	37	45	47	41	47	25	21	7	14	12
Filled (otherwise sound)	10	22	13	13	14	8	9	9	10	9	7	12	13	13	22	12
Filled and decayed	1	3	3	2	2	3	3	2	1	2	2	2	1	2	3	1
Decayed, not previously treated	2	4	1	3	5	8	8	8	7	5	8	4	3	3	4	3
Unrestorable	2	2	2	3	2	2	3	2	2	4	2	3	2	2	3	2
Missing	71	55	73	58	52	34	40	34	33	39	34	54	60	73	54	70
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

	Lower jaw															
	Left								Right							
	Molars			Premolars		Canine	Incisors				Canine	Premolars		Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Sound and untreated	11	9	6	29	51	81	82	82	82	83	81	51	31	6	9	13
Filled (otherwise sound)	11	17	9	18	14	5	3	1	2	3	5	12	14	12	20	11
Filled and decayed	3	2	2	3	2	1	1	—	—	—	1	2	3	3	5	2
Decayed, not previously treated	3	4	2	5	7	5	4	3	2	3	6	5	5	1	4	4
Unrestorable	2	3	3	4	2	2	1	1	1	2	2	3	2	1	3	3
Missing	70	65	78	41	24	6	9	13	13	9	5	27	45	77	59	67
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Base = 632

Table C5 Those from England who attend for a regular check-up; adults aged 18 – 34 with some natural teeth

Tooth conditions	Upper jaw															
	Left								Right							
	Molars			Premolars		Canine	Incisors				Canine	Premolars		Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Sound and untreated	22	11	4	32	33	78	60	66	62	61	78	31	30	3	11	21
Filled (otherwise sound)	22	77	64	53	44	17	29	26	31	30	16	48	49	66	75	22
Filled and decayed	1	4	5	2	2	1	3	2	2	2	1	2	3	5	4	1
Decayed, not previously treated	2	1	1	1	—	—	2	1	1	1	2	2	1	1	2	2
Unrestorable	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—
Missing	53	7	26	12	20	4	6	5	4	6	3	17	17	25	8	54
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

	Lower jaw															
	Left								Right							
	Molars			Premolars		Canine	Incisors				Canine	Premolars		Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Sound and untreated	19	9	4	37	59	93	93	93	91	92	92	58	36	2	9	19
Filled (otherwise sound)	21	71	56	48	28	6	4	4	6	5	6	30	45	58	71	21
Filled and decayed	2	6	8	4	—	—	1	1	1	—	—	1	4	6	6	2
Decayed, not previously treated	3	2	—	1	2	1	1	1	—	1	1	1	2	1	2	2
Unrestorable	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Missing	55	11	32	10	11	—	1	1	2	2	1	10	13	33	12	56
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Base = 553

Table C6 Those from England who attend only when having trouble; adults aged 16 – 34 with some natural teeth

Tooth conditions	Upper jaw															
	Left								Right							
	Molars			Premolars		Canine	Incisors				Canine	Premolars		Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Sound and untreated	32	31	15	49	51	85	67	73	71	69	81	52	49	14	30	30
Filled (otherwise sound)	11	37	37	27	21	5	13	13	12	12	6	24	24	41	37	9
Filled and decayed	1	5	5	2	2	1	4	2	2	2	1	2	2	7	5	2
Decayed, not previously treated	4	10	6	4	5	4	7	6	6	6	5	4	5	6	11	6
Unrestorable	2	4	3	2	3	1	1	1	1	1	2	2	3	3	4	3
Missing	50	13	34	16	18	4	8	5	8	10	5	16	17	29	13	50
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Lower jaw															
	Left								Right							
	Molars			Premolars		Canine	Incisors				Canine	Premolars		Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Sound and untreated	28	20	10	57	79	93	95	94	93	95	94	76	54	11	22	29
Filled (otherwise sound)	10	39	33	16	10	2	2	3	3	2	2	13	22	32	40	12
Filled and decayed	1	6	7	3	1	1	1	—	1	1	—	1	2	6	7	1
Decayed, not previously treated	6	12	4	6	2	2	1	2	2	2	3	3	6	5	12	6
Unrestorable	2	4	3	3	1	1	—	—	—	—	—	1	2	2	4	2
Missing	53	19	43	15	7	1	1	1	1	—	1	6	14	44	15	50
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Base = 389

Table C7 Those from England who attend for a regular check-up; adults aged 35 and over with some natural teeth

Tooth conditions	Upper jaw															
	Left								Right							
	Molars			Premolars		Canine	Incisors				Canine	Premolars		Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Sound and untreated	5	3	2	11	17	47	40	48	45	40	50	15	11	2	4	6
Filled (otherwise sound)	30	62	39	46	41	35	34	34	35	35	33	47	44	42	62	24
Filled and decayed	1	4	4	3	3	3	2	2	3	2	3	4	2	1	3	—
Decayed, not previously treated	1	—	1	1	—	2	2	1	1	2	—	1	—	—	—	1
Unrestorable	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—
Missing	63	31	54	38	39	13	22	15	16	21	14	33	43	55	31	69
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Lower jaw															
	Left								Right							
	Molars			Premolars		Canine	Incisors				Canine	Premolars		Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Sound and untreated	4	3	1	18	42	85	91	90	90	90	83	47	20	1	2	5
Filled (otherwise sound)	33	54	36	49	41	12	6	4	5	5	14	38	43	38	53	30
Filled and decayed	2	5	5	4	3	—	—	1	—	—	1	2	3	3	5	4
Decayed, not previously treated	1	—	—	1	1	1	—	1	1	1	1	1	1	1	1	—
Unrestorable	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Missing	60	38	58	28	13	2	3	4	4	4	1	12	33	57	39	61
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Base = 538

Table C8 Those from England who attend only when having trouble; adults aged 35 and over with some natural teeth

Tooth conditions	Upper jaw															
	Left								Right							
	Molars			Premolars		Canine	Incisors				Canine	Premolars		Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Sound and untreated	15	15	9	23	27	47	40	46	48	43	49	26	22	8	14	13
Filled (otherwise sound)	11	23	13	13	14	8	8	9	10	9	7	12	13	13	23	12
Filled and decayed	1	3	3	2	2	2	3	2	1	2	2	2	1	2	3	1
Decayed, not previously treated	2	4	1	3	5	8	8	8	7	5	8	4	3	3	4	3
Unrestorable	2	2	2	2	2	2	3	2	2	4	2	3	3	2	3	2
Missing	69	53	72	57	50	33	38	33	32	37	32	53	58	72	53	69
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

	Lower jaw															
	Left								Right							
	Molars			Premolars		Canine	Incisors				Canine	Premolars		Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Sound and untreated	11	10	7	30	52	83	82	81	81	84	80	51	32	6	10	14
Filled (otherwise sound)	11	17	9	19	14	5	3	1	2	2	6	12	14	13	20	11
Filled and decayed	3	2	2	2	3	1	—	—	—	—	1	3	3	3	5	2
Decayed, not previously treated	3	4	1	5	6	5	4	3	2	3	6	5	5	1	3	4
Unrestorable	2	3	3	4	2	1	1	1	1	1	2	3	2	1	3	2
Missing	70	64	78	40	23	5	10	14	14	10	5	26	44	76	59	67
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Base = 537

Table C9 Those from Scotland who attend for a regular check-up; adults aged 16 – 34 with some natural teeth

Tooth conditions	Upper jaw															
	Left								Right							
	Molars			Premolars		Canine	Incisors				Canine	Premolars		Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Sound and untreated	20	7	3	21	24	70	47	47	44	41	66	18	22	2	7	16
Filled (otherwise sound)	24	73	58	58	50	23	38	42	43	47	24	58	54	63	71	19
Filled and decayed	—	8	4	3	2	1	3	2	4	2	1	2	3	4	6	1
Decayed, not previously treated	—	—	—	1	1	1	1	3	2	1	1	1	1	1	1	2
Unrestorable	—	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—
Missing	56	11	35	17	23	5	11	6	7	8	8	21	20	30	15	62
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

	Lower jaw															
	Left								Right							
	Molars			Premolars		Canine	Incisors				Canine	Premolars		Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Sound and untreated	16	5	1	27	45	90	89	84	83	85	86	47	28	2	7	17
Filled (otherwise sound)	23	55	45	48	39	8	10	15	14	12	11	39	50	53	65	24
Filled and decayed	2	13	3	2	1	1	—	—	1	1	1	1	2	2	5	2
Decayed, not previously treated	2	2	—	2	1	—	—	—	1	1	1	2	1	—	1	—
Unrestorable	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—
Missing	57	25	51	21	13	1	1	1	1	1	1	11	19	43	22	57
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Base = 165

Table C10 Those from Scotland who attend only when having trouble; adults aged 16 – 34 with some natural teeth

Tooth conditions	Upper jaw															
	Left								Right							
	Molars			Premolars		Canine	Incisors				Canine	Premolars		Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Sound and untreated	25	17	6	34	40	71	50	57	53	51	70	40	34	4	15	23
Filled (otherwise sound)	13	41	26	25	23	8	18	13	14	15	9	22	24	24	36	10
Filled and decayed	1	4	7	4	2	1	4	4	6	4	2	2	1	6	4	2
Decayed, not previously treated	7	10	4	8	3	4	8	9	8	8	5	4	7	4	13	7
Unrestorable	3	2	4	2	4	1	1	1	1	1	1	2	1	3	3	3
Missing	51	26	53	27	28	15	19	16	18	21	13	30	33	59	29	55
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Lower jaw															
	Left								Right							
	Molars			Premolars		Canine	Incisors				Canine	Premolars		Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Sound and untreated	20	12	3	40	66	88	87	85	90	86	93	70	50	4	17	22
Filled (otherwise sound)	9	35	17	25	17	3	7	8	3	6	2	11	18	24	31	12
Filled and decayed	3	3	2	3	1	—	1	1	1	2	—	2	3	2	4	1
Decayed, not previously treated	11	14	2	5	5	7	3	5	4	5	3	5	7	4	9	4
Unrestorable	4	6	1	3	2	—	—	—	—	—	—	2	2	1	4	4
Missing	53	30	75	24	9	2	2	1	2	1	2	10	20	65	35	57
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Base = 181

Table C11 Those from Scotland who attend for a regular check-up; adults aged 35 and over with some natural teeth

Tooth conditions	Upper jaw															
	Left								Right							
	Molars			Premolars		Canine	Incisors				Canine	Premolars		Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Sound and untreated	2	—	1	8	12	35	24	32	34	23	34	8	8	—	3	2
Filled (otherwise sound)	24	63	40	45	47	39	43	41	37	45	43	51	44	40	57	22
Filled and decayed	1	3	—	2	2	1	2	1	3	2	2	1	2	2	2	—
Decayed, not previously treated	—	—	—	1	—	2	1	2	—	2	—	—	1	1	1	—
Unrestorable	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—
Missing	73	34	59	44	38	23	30	24	26	28	21	40	44	57	37	76
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Lower jaw															
	Left								Right							
	Molars			Premolars		Canine	Incisors				Canine	Premolars		Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Sound and untreated	4	2	1	9	36	75	83	89	89	85	77	31	11	—	1	2
Filled (otherwise sound)	25	50	24	46	44	15	11	5	5	10	16	46	51	32	50	26
Filled and decayed	2	3	2	3	2	2	—	—	1	1	3	2	3	2	5	1
Decayed, not previously treated	1	—	—	—	2	2	1	1	1	2	1	2	2	—	—	2
Unrestorable	—	—	—	1	1	1	—	—	—	—	1	1	—	—	—	1
Missing	68	45	73	41	15	5	5	5	4	2	2	18	33	66	44	68
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Base = 130

Table C12 Those from Scotland who attend only when having trouble; adults aged 35 or more with some natural teeth

Tooth conditions	Upper jaw															
	Left								Right							
	Molars			Premolars		Canine	Incisors				Canine	Premolars		Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Sound and untreated	6	5	2	9	13	27	22	31	35	29	27	14	9	—	6	5
Filled (otherwise sound)	6	19	11	10	13	10	9	11	11	9	8	11	10	11	17	13
Filled and decayed	1	1	3	1	4	3	3	2	—	2	3	2	1	1	3	1
Decayed, not previously treated	1	5	2	3	7	11	8	7	9	10	10	4	2	1	5	1
Unrestorable	2	1	1	4	2	5	3	2	2	1	1	5	—	1	1	5
Missing	84	69	81	73	61	44	55	47	43	49	51	64	78	86	68	75
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Lower jaw															
	Left								Right							
	Molars			Premolars		Canine	Incisors				Canine	Premolars		Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Sound and untreated	5	3	—	17	42	78	82	81	83	87	79	43	21	1	3	8
Filled (otherwise sound)	7	13	9	16	14	5	2	1	1	3	3	14	15	9	23	10
Filled and decayed	5	4	1	3	—	1	—	—	—	—	2	3	3	3	7	2
Decayed, not previously treated	3	6	5	10	7	8	6	3	5	3	10	6	9	1	5	5
Unrestorable	6	4	1	1	3	1	1	1	2	—	1	1	2	2	3	4
Missing	74	70	84	53	34	7	9	14	9	7	5	33	50	84	59	71
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Base = 148

Table C13 Those from Wales who attend for a regular check-up; adults aged 16–34 with some natural teeth

Tooth conditions	Upper jaw															
	Left								Right							
	Molars			Premolars		Canine	Incisors				Canine	Premolars		Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Sound and untreated	28	10	1	32	31	75	52	55	51	43	77	34	30	—	13	18
Filled (otherwise sound)	18	71	47	51	46	14	38	35	35	41	13	48	47	49	62	28
Filled and decayed	1	6	7	—	—	3	1	—	3	3	4	—	1	—	8	—
Decayed, not previously treated	—	—	3	1	1	—	1	—	—	—	—	3	1	—	1	1
Unrestorable	—	—	—	3	1	—	—	—	—	—	—	—	—	—	1	—
Missing	53	13	42	13	21	8	8	10	11	13	6	15	21	51	15	53
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Lower jaw															
	Left								Right							
	Molars			Premolars		Canine	Incisors				Canine	Premolars		Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Sound and untreated	24	13	—	35	60	88	97	92	89	96	89	68	40	1	18	23
Filled (otherwise sound)	17	69	48	44	31	7	—	7	7	3	8	23	35	46	62	21
Filled and decayed	—	1	1	3	—	1	—	—	—	—	—	1	3	—	3	—
Decayed, not previously treated	1	—	—	1	1	—	—	—	1	—	—	—	—	—	—	1
Unrestorable	—	—	1	—	—	—	—	—	—	—	—	—	1	—	—	1
Missing	58	17	50	17	8	4	3	1	3	1	3	8	21	53	17	54
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Base = 71

Table C14 Those from Wales who attend only when having trouble; adults aged 16 – 34 with some natural teeth

Tooth conditions	Upper jaw															
	Left								Right							
	Molars			Premolars		Canine	Incisors				Canine	Premolars		Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Sound and untreated	24	37	6	50	53	81	66	71	66	60	81	48	49	13	43	39
Filled (otherwise sound)	13	37	34	29	16	2	15	15	19	16	3	21	23	31	29	15
Filled and decayed	2	2	3	—	5	2	—	—	—	3	—	5	2	2	5	—
Decayed, not previously treated	8	3	5	3	2	5	5	3	5	8	8	5	5	5	8	2
Unrestorable	3	8	8	3	3	2	3	—	2	2	2	2	5	3	—	3
Missing	50	13	44	15	21	8	11	11	8	11	6	19	16	46	15	41
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

	Lower jaw															
	Left								Right							
	Molars			Premolars		Canine	Incisors				Canine	Premolars		Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Sound and untreated	27	28	10	53	75	88	97	89	91	94	92	93	50	13	32	29
Filled (otherwise sound)	8	28	21	23	15	3	—	—	3	—	3	—	24	26	31	5
Filled and decayed	2	8	6	—	—	—	—	—	—	2	—	—	2	2	3	—
Decayed, not previously treated	11	6	2	6	—	2	3	6	2	2	3	2	3	3	3	6
Unrestorable	—	6	10	—	—	2	—	—	2	2	—	—	5	3	5	2
Missing	52	24	51	18	10	5	—	5	2	—	2	5	16	53	26	58
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Base = 62

Table C15 Those from Wales who attend for a regular check-up; adults aged 35 or more with some natural teeth

Tooth conditions	Upper jaw															
	Left								Right							
	Molars			Premolars		Canine	Incisors				Canine	Premolars		Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Sound and untreated	5	3	2	14	16	54	43	34	48	48	42	16	11	2	5	6
Filled (otherwise sound)	30	61	52	36	39	31	36	46	33	34	43	53	51	41	49	28
Filled and decayed	—	5	2	2	—	2	—	3	2	2	2	—	—	2	—	2
Decayed, not previously treated	—	—	—	—	—	—	2	—	—	—	—	—	—	—	2	—
Unrestorable	2	—	—	—	2	—	—	—	—	—	2	—	—	—	—	2
Missing	63	31	44	48	43	13	19	17	17	16	11	31	38	55	44	62
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

	Lower jaw															
	Left								Right							
	Molars			Premolars		Canine	Incisors				Canine	Premolars		Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Sound and untreated	8	2	—	23	42	84	89	91	91	95	86	41	13	2	8	6
Filled (otherwise sound)	38	51	22	38	42	9	6	3	5	3	9	42	39	23	51	34
Filled and decayed	3	2	2	5	2	3	—	—	2	—	—	2	3	2	3	—
Decayed, not previously treated	—	—	—	—	—	2	—	—	—	—	3	2	—	—	2	—
Unrestorable	—	—	—	—	—	—	—	—	—	—	—	—	2	2	2	—
Missing	51	45	76	34	14	2	5	6	2	2	2	13	43	71	34	60
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Base = 61

Table C16 Those from Wales who attend only when having trouble; adults aged 35 or more with some natural teeth

Tooth conditions	Upper jaw															
	Left								Right							
	Molars			Premolars		Canine	Incisors				Canine	Premolars		Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Sound and untreated	13	13	8	21	21	37	33	44	42	42	41	19	16	10	19	11
Filled (otherwise sound)	4	14	8	7	11	6	3	6	4	6	8	8	13	10	11	11
Filled and decayed	—	4	3	1	—	3	1	—	1	1	—	1	—	—	4	3
Decayed, not previously treated	1	6	—	3	4	10	14	4	4	1	7	3	6	3	1	4
Unrestorable	1	1	3	3	1	3	3	4	4	1	6	10	3	1	3	—
Missing	81	62	78	65	63	41	46	42	45	49	38	59	62	76	62	71
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

	Lower jaw															
	Left								Right							
	Molars			Premolars		Canine	Incisors				Canine	Premolars		Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Sound and untreated	8	6	4	35	47	77	78	86	85	83	78	51	33	4	10	13
Filled (otherwise sound)	14	21	4	10	11	3	4	3	1	1	4	8	13	8	15	15
Filled and decayed	3	3	1	6	—	—	1	—	—	—	—	1	1	1	—	1
Decayed, not previously treated	1	—	1	3	3	6	7	4	3	4	7	8	8	—	3	1
Unrestorable	4	7	4	1	11	6	4	1	3	8	4	4	4	1	4	4
Missing	70	63	86	45	28	8	6	6	8	4	7	28	41	86	68	66
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Base = 69

Table D1 A summary of base numbers used in the report

	All adults who were interviewed					Dentate adults who were examined
	Dentate			Edentuous	All	
	Natural teeth only	Partial dentures	All dentate			
UK	2304	958	3262	1376	4639	2784
England	1969	792	2761	1072	3833	2350
Wales†	251	112	363	217	580	326
Scotland†	569	303	872	548	1420	748
North West	265	100	365	169	534	303
North & N East	270	101	371	200	571	317
West Midlands	213	89	302	129	431	266
East Midlands	268	96	364	170	534	324
South West	341	155	496	185	681	423
North Thames	318	132	450	97	547	387
South Thames	294	119	413	122	535	330
16 – 24	681	46	726	2	729	646
25 – 34	682	143	825	36	860	724
35 – 44	481	203	684	101	785	589
45 – 54	254	245	499	229	728	419
55 and over	206	318	524	1008	1532	403
Male	1167	457	1624	553	2176	1398
Female	1137	502	1639	824	2463	1386
Regular check-up*	1037	367	1404			1270
Occasional check-up*	318	126	444			381
Only with trouble*	927	465	1392			1113
1, 11, 111N	926	374	1300	359	1658	1136
111M	774	333	1108	453	1561	950
1V, V	432	173	605	371	976	494

† *Unweighted.*
* *Dentate only (excluding those who had never visited the dentist).*

Appendix A The sample

A.1 Introduction

This survey was carried out for the United Kingdom health departments by Social Survey Division in collaboration with the Department of Dental Health, University of Birmingham Dental School. Previous surveys of adult dental health had been carried out in England and Wales in 1968, and in Scotland in 1972. A survey of children's dental health in England and Wales had been undertaken in 1973.

The aim of the survey was to discover the state of individual's dental health and to ask about their dental experiences in order to help plan and organise the dental services in the future. Comparison with past data would indicate whether or not dental health was improving.

Since the survey was intended to provide data for comparison with the results of the previous work the data collected and analyses undertaken had to be essentially the same as before. However, in 1974 the National Health Service had been reorganised and it was considered important for any regional analysis to be relevant to the current organisation of the provision of dental services.

The main change in the overall scheme was that only people with some natural teeth were to have a dental examination although all people were to be interviewed.

A.2 Population

The population concerned was that of adults (ie those aged 16 and over) throughout the United Kingdom. Scotland and Wales were oversampled so that some separate analyses could be carried out in those areas, but Northern Ireland was included proportionately for the purpose of providing total figures for the UK.

A.3 Sample size and expected precision

One of the main determinants of sample size in this survey was the need to be able to detect any major changes that had occurred in the dental health of adults in England and Wales between 1968 and 1978. We also wished to detect major changes in the dental condition of adults in Scotland, but, because of the shorter time period between the previous Scottish survey and the 1978 survey, less detailed analyses were planned.

An important indicator of the dental condition of a population is the proportion who have no natural teeth. It is possible to calculate the probability of detecting a given difference between two percentages at the 5% level of significance (see W G Cochran and G M Cox *Experimental Designs* 1966).

The previous surveys had estimates of the proportion edentulous in England and Wales and in Scotland. We also knew from various sources the estimated size of the proportion edentulous for 1978 and so we were able to use these figures to determine the sample size.

i) England and Wales

In order to detect a true decrease of 6% between 37% (edentulous 1968) and 31% (expected edentulous 1978*) at the 5% level of significance, with level of certainty P, the following achieved sample sizes (n) are required:

P	n
53%	370
64%	500
71%	600
76%	700

ii) Scotland

Similarly, in order to detect a true decrease of 3% between 44% (edentulous 1972) and 41% (expected edentulous 1978*) at the 5% level of significance, with level of certainty P, the following achieved sample sizes (n) are required:

P	n
31%	700
44%	1200
50%	1500
60%	1960

A constraint was imposed on the sample size for this survey by the number of dentists available for carrying out examinations and the fact that each dentist required a workload which was contained in a clearly defined area and involved the minimum of travelling time. This effectively restricted the number of primary sampling units which could be used.

In view of these considerations, it was decided to select a sample of 7500 in which Scotland was weighted by 3.3 and Wales by 2.4.

A.4 Effect of weighting

Before carrying out the survey it was possible to consider the effect of weighting on the variance of estimates. The expected increase in the variance was calculated using:

$$V^2 = W_h K_h \left(\sum \frac{W_h}{K_h} \right) \frac{S^2}{N}$$

(L Kish *Survey Sampling*, 1965)

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* Figure obtained from a survey carried out in 1977 by Market and Opinion Research International

where W_h = total population in stratum h
total population in all strata
K_h = weight to be applied in stratum
S = variance of an estimate
N = sample size

Calculations showed that when Scotland was weighted by 3.3 and Wales by 2.4, the variance of an estimate would be increased by a factor of 1.6.

A.5 Sub-groups

The estimates of precision presented in 'sample size and expected precision' above assumed the analysis of the whole sample, whereas the analysis of sub-groups is an important consideration. In particular, the dentate in the sample form an important group and Table A.1 shows the expected numbers of these people and of those who would be examined by dentists (assuming 90% response to examination).

Clearly, the precision of estimates for this sub-group (the dentate) would be lower than for the whole sample. For example, taking 37% as an estimate of the proportion of regular dental attenders among the dentate in Wales in 1968* we would be able to detect an increase of 5% with only 39% certainty.

Table A.1 Expected number of dentate in sample

	Achieved sample	Expected dentate	Exams achieved (90% response)
Scotland	1526 x0.59	900	810
Wales	588 x0.61	359	323
Northern Ireland	137 x0.61	84	76
England	4124 x0.69	2846	2561
Northern & Yorks	595	411	370
Mersey & North West	584	403	363
Trent & East Anglia	562	388	349
West Midlands	460	317	285
South Western, Wessex & Oxford	710	490	441
NE & NW Thames	638	440	396
SE & SW Thames	575	397	357
United Kingdom	**6375**	**4189**	**3770**

A.6 Sample Design

It is generally accepted that for any ratio estimate to have an acceptably low maximum bias at least 40 primary sampling units (50 to be certain) are necessary. This applies to any level of analysis (regional, etc.) but practical constraints meant that we could only follow this guideline for estimates relating to England and Wales combined.

Since the number of PSUs were relatively small it was considered advisable to use a two-stage rather than three-stage design to overcome the effects of clustering. Constituencies were chosen as first-stage units because this would result in the areas to be covered by both dentists and interviewers being smaller in many parts of the country than if another unit (such as District) were used, but also in the sample being less clustered than if wards were used.

Table A.2 Distribution of a sample of 7500 (Scotland weighted by 3.3 Wales by 2.4)

	Set sample		Expected achieved sample (85% response)
	Individuals	Constituencies	
Scotland	1795	20	1526
Wales	692	12	588
Northern Ireland	161	2	137
England	4852	39	4124
Northern & Yorks	700	6	595
Mersey & North West	687	6	584
Trent & East Anglia	661	5	562
West Midlands	541	4	460
South Western, Wessex & Oxford	835	7	710
NE & NW Thames	751	6	638
SE & SW Thames	677	5	575
United Kingdom	**7500**	**73**	**6375**

The regions to be used for analysis were formed by grouping adjacent Regional Health Authorities. Table A.2 shows the distribution of the set and expected achieved sample.

Distribution of the sample between regions was carried out with probability proportional to the 1975 population (the most recent figures available). Constituencies were selected with probability proportional to 1977 electorate.

With an achieved sample of the size shown in Tables A.1 and A.2, we would be more than 50% certain of detecting the expected change in Scotland, and 89% certain of detecting the expected change in the smallest regional group to be used in the comparative study. (The Midlands and East Anglia which was equivalent to the grouped Regional Health Authorities of West Midlands, Trent and East Anglia.)

A.7 Stratification

Four stratification factors relevant to the survey were used:

i) Region: Scotland, Wales and Northern Ireland formed one region each and England was divided into the seven grouped Regional Health Authority regions shown in the tables. (Within region, Scottish constituencies were also stratified according to whether they were city, highland and island, or other type.)

ii) Socio-Economic Group: Constituencies were ordered by the proportion of the population in SEG 1 to 5 and 13.

iii) Age: For each constituency the proportion of the population aged 60 years or more was calculated using census data (age being related to tooth loss).

iv) Persons Per Dentist (1976): The Dental Estimates Board produces these figures for counties and Family Practitioner Committee Areas. Constituencies in England and Wales were allocated the appropriate value for the area in which they fell. (Figures were not available for Scotland or Northern Ireland).

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* In the 1968 survey, it was found that in Wales and the South West 43% of those aged 16 – 34 and 30% of those aged 35 or more who were dentate attended a dentist regularly.

A.8 Regional comparisons with the 1968 survey

The eight regions of England and Wales used in the design of the sample were formed by geographically grouping Regional Health Authorities. However, the 1968 survey of England and Wales, with which comparisons were to be made, had been analysed in terms of grouped planning regions which were not wholly contiguous with Health Authorities. This meant that it was not possible simply to regroup the eight RHA regions in order to obtain the equivalent of the four grouped planning region areas.

It was suggested that each constituency might be reallocated to one of the four 1968 regions at the anlaysis stage. Since the sample was stratified by RHA region, this may have meant that it was unrepresentative in a particular region, and therefore, any estimate biased. However, as the two sets of regions overlap to the greater extent and the grouped planning regions are larger than the RHA regions, the problem should be negligible.

A.9 Large constituencies

When the sample of constituencies had been drawn, it became apparent that some of them covered too large an area for one dental examiner to cover adequately. It was therefore decided that the sample design should be subject to a further stage in those nine constituencies which covered more than 250,000 acres. In these cases, grouped wards were selected with probability proportional to 1977 electorate.

A.10 Sample selection of individuals

Since the population of interest was that of adults aged 16 and over, and because the Electoral Register covers only those aged 18 and over the sampling method used had to include the selection of the correct proportion of 16 and 17 year olds and, also, any other people who happened not to be registered. The Marchant and Blyth Method of selecting individuals fulfills both these criteria and so was used in the selection of the sample. (See Annex to this sampling report) The inclusion of 16 and 17 year olds also had to be allowed for in the initial planning of the numbers of people to be selected so that the sample size would reach 7500 after the inclusion of the selected 16 and 17 year olds.

The distribution of the selected sample is shown in Table A.3.

In Scottish cities the procedure was somewhat different from elsewhere. When four or more surnames were registered at an address, we took a household, rather than the address, as the unit of interest. Thus, on the address form, we listed the selected person and anyone else at the address with the same surname (surnames being taken as an approximation to households) while everyone else at the address was included on a supplementary list. In these cases, interviewers were instructed to list on the address form only additional members of the selected person's household (rather than address) and then to check whether any of these had been included on the supplementary list. If this was the case, the person in question was deleted from the address form in such a way as to make it clear what had happened. This meant that, when the address form was returned to the office, any additional interviews carried out in the household could be reweighted if they had initially been given the wrong chance of selection. In the event this occurred in only two cases so it was agreed that reweighting the data for two individuals would introduce unnecessary complications in the analysis.

A.11 Northern Ireland

It was agreed that the Department of Finance, on behalf of the Department of Health and Social Services in Northern Ireland, should select its own sample of four districts and two wards within each, from a frame stratified by population density only. The total number of individuals selected was to be that calculated by Sampling Branch of Social Survey Division.

A.12 Response

Table A.4 shows the overall response figures. The number of individuals selected throughout the UK was 7266. However, it was apparent from the Electoral Register that 113 of the addresses involved were institutions of some kind (for example, old people's homes, university halls of residence, etc.) and as institutions were to be excluded from the sample, these were withdrawn before the addresses were allocated to interviewers, leaving a sample of 7153.

Table A.3 The selected sample

	Estimated sample size	No. of constituencies	Sample per constituency	Actual sample size
Scotland	1732	20	87	1740
Wales	668	12	56	672
Northern Ireland	155	2*	78*	156*
England	4682	39	120	4680
Northern & Yorks	676	6	113	678
Mersey & North West	663	6	111	666
Trent & East Anglia	638	5	128	640
West Midlands	522	4	131	524
South Western, Wessex & Oxford	806	7	115	805
NE & NW Thames	725	6	121	726
SE & SW Thames	653	5	131	655
	7237	**73**		**7262**

* *In Northern Ireland 160 individuals were actually selected (see above).*

When interviewers tried to make contact at these addresses, they found 878 cases where an interview was not required because the address no longer existed, it was empty, or the selected person had moved away and insufficient people had moved in for another person to be selected.

The number of addresses lost at this stage was slightly higher than we expected which was probably due to the age of the Electoral Register used to select the sample. In 1968 the fieldwork dates were chosen to allow the interviewing to start as soon as practicably possible after the compilation of the Electoral Register. In order to reduce losses from the sample due to changes in address occurring between the time people were registered and when the interviewer went to interview them. However, in 1978, the exclusion of the edentulous from the examination meant that, while keeping the size of the dental team reasonably small, we were able to select a larger sample overall. Since we were dealing with a much larger sample it was necessary to begin the selection procedure earlier which meant that the sample could not be selected from the new Electoral Register as had been the case in 1968. Thus in 1978 there was a year longer between people registering and the interviewers going to the address in which changes, such as people moving or property being demolished, could have occurred.

Table A.4 Response

a) Sample of address	
Number of addresses selected	7266
Withdrawn (obvious institutions)	113
Set sample	7153
No person for interview at address	878
Effective sample	6275
b) Co-operation achieved at the interview	
Interview obtained	5967
Refusal	529
Non-contact	183
Total people selected from 6275 address	6679

At the addresses in the effective sample, a total of 6679 eligible people were present. Of these, 712 either refused to be interviewed or could not be contacted by the interviewer and the remaining 5967 agreed to participate.

It had been anticipated that over 240 people aged 16 or 17 would be selected by interviewers and interviewed. However, only 146 of this group were included*. There are several possible explanations for this: firstly it may be that 16 and 17 year olds were less easy to contact and produced a higher level of non-response than the sample as a whole, secondly, interviewers may not have made it clear that they were interested in contacting people of this age, and thirdly, this group may not always have come within the standard household definition used because they were away at school or college.

A.13 Comparison of the sample with the population

The characteristics of the achieved sample were compared with those of the population of the UK in order to find whether the sample was representative.

The distribution of individuals between the grouped Regional Health Authorities was not significantly different from that of those aged 16 years and over in the population. However, when regrouping into standard regions was carried out for comparison with the 1968 data, Wales and the South West was found to contain too large a proportion of the sample.

Neither the sex nor age structure of the sample showed any significant differences for the UK as a whole, although some individual countries and regions were not completely representative. In the case of sex, South Western, Wessex and Oxford had slightly fewer men in the sample than would be expected, but no other regions or countries showed any differences. With regard to age, the sample was deficient in 16 to 24 year olds in England, and that country also had too low a proportion of those aged 75 or over and too high a proportion of 35 to 44 year olds (Table A.5). Looking again at the total sample, it was deficient in women aged 75 or over and men aged 16 to 34, and contained too large a proportion of men aged 35 to 44.

Table A.5 Comparison of sample and population age and sex distributions by country

Age/Sex	England		Scotland		Wales		UK	
	Weighted achieved sample	Population estimate	Weighted achieved sample	Population estimate	Weighted achieved sample	Population estimate	Weighted achieved sample	Population estimate
	%	%	%	%	%	%	%	%
16 – 24	16	17	17	19	13	17	16	18
25 – 34	18	19	19	18	19	18	18	18
35 – 44	17	15	17	15	18	15	17	15
45 – 54	16	15	16	15	16	15	16	15
55 – 64	15	15	15	14	17	15	15	15
65 – 74	12	12	10	12	12	13	12	12
75 and over	6	7	6	7	5	7	6	7
	100	100	100	100	100	100	100	100
Male	47	49	47	48	47	49	47	48
Female	53	51	53	52	53	51	53	52
	100	100	100	100	100	100	100	100
Base	*3833*	*35,586,000*	*1420*	*3,928,000*	*580*	*2,132,000*	*4639*	*42,728,000*

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* There were 146 people interviewed who said that they were aged 16 or 17 years on 1 May 1978, but interviewers were instructed to establish eligibility by means of age at time of first contact.

Comparison of the age structure of the sample within grouped Regional Health Authorities was difficult as the figures available included 15 year olds in the youngest age group. However, bearing this in mind, it appeared that four regions (Northern & Yorks, Mersey & North West, West Midlands, and South Western Wessex and Oxford) were deficient in the youngest age group (16 to 24) and North Thames was unusual in having an excess. We also found that West Midlands had too few 25 to 34 year olds while Mersey & North West, West Midlands and South Thames all had an excess of 35 to 44 year olds and Mersey and North West and North Thames both had too few of those aged 75 years and over.

A.14 Sampling errors

The variance of a population variable assuming simple random sampling can be estimated from the sample using:

$$s^2 = \sum_{i=1}^{n} \frac{(y_i - \bar{y})^2}{n-1}$$

Where n = the number of elements in the sample each with value y_i and $\bar{y}$ = the mean of these values.
The estimated variance of an estimate of the mean value of y in the population depends on the number of observations that make up the sample and is given by:

$$\text{variance } (\bar{y}) = \frac{s^2}{n}$$

However, calculations based on the above formulae do not take into account the two-stage design or the stratification used in the sample design of this survey. Kish and Hess[1] describe a means of estimating the error due to the multi-stage sample based only on the sample variance between first stage units.

The 75 first stage units were selected systematically within regions from lists ordered by the stratification factors. This type of design can be regarded as the selection of one unit from each of a number of 'implicit' strata. In order to calculate the variance it is necessary to 'collapse' adjacent strata so that in our calculations we have two first stage units per stratum.

All possible adjacent pairings are made within region so that 1 is compared with 2, 2 with 3, 3 with 4 and so on until the end of the region. Thus the calculations are based on $L_h - 1$ differences where L_h is the number of PSU's selected from region h.

The formula is given for the ratio estimator $r = y/x$ where x_i, y_i are values for two variables for the ith informant and x, y are the sums of these variables.

The estimated variance of r is given by:

$$\hat{\text{var}}(r) = \frac{1}{x^2} \sum_{h=1}^{H} \frac{L_h}{2(L_h - 1)} \left[\sum_{\alpha=1}^{L_h - 1} dy_{h\alpha}^2 + r^2 \sum_{\alpha=1}^{L_h - 1} dx_{h\alpha}^2 - 2r \sum_{\alpha=1}^{L_h - 1} dy_{h\alpha}\, dx_{h\alpha} \right]$$

Where
L is the number of strata

$$dy_{h\alpha} = y_{h\alpha} - y_{h\alpha+1}$$

$$dx_{h\alpha} = x_{h\alpha} - x_{h\alpha+1}$$

$x_{h\alpha}$ and $y_{h\alpha}$ are weighed totals of the x and y variables from stratum $h\alpha$.

This formula is only valid where the coefficient of variation of x, cv(x) is small. Kish[1] recommends that ideally cv(x) should be less than 0.1 and should definitely be below 0.2 for the approximation to be reasonable. We examined the coefficient of variation for each of the variables for which we calculated the variances. The majority were smaller than 0.1 and none were greater than 0.2.

Sampling errors based on the above formula are presented for a selection of the survey variables and subgroups in the following tables. Also shown are the values of the simple random errors and the square root of the design effect. The design effect ('deff') is the ratio of the variance of a statistic, calculated taking into account the two-stage design, to the variance of the same statistic based on a simple random sample of the same size. Thus the square root of deff is the multiple that needs to be applied to the estimated simple random sampling error to take account of the complex design. The variance of multi-stage samples is generally greater than for a comparable single stage sample and so $\sqrt{\text{deff}}$ is usually larger than one.

The values of $\sqrt{\text{deff}}$ presented in the following tables range from 0.75 to 2.6 for the data and 0.88 to 2.0 for the 1968 data. Most values fell between 0.9 and 1.3 for both surveys with the 1968 values being slightly lower in general than those for 1978. This was probably due to the 1978 sample not being self-weighting.

The largest design effects were found in the decay measures. This might be expected since the complex error calculation is based on the differences between primary sampling units and each dental examiner worked wholly within one or two primary sampling units. Thus we are effectively taking account of the differences between dental examiners and of all the different tooth conditions the measurement of decay showed the greatest variability during the calibration exercise.

A.15 Comparing two statistics

Frequently we wish to examine the difference between two statistics such as the proportion of edentulous men and the proportion of edentulous women. The difference between two ratios $(r - r^1)$ has a variance which is estimated by:

$$\text{var}(r - r^1) = \text{var}(r) + \text{var}(r^1) - 2\,\text{covariance}(rr^1)$$

Since the 1968 survey and the 1978 survey were conducted on different samples the covariance of their results is zero. Therefore when comparisons are made

Table A.6 Sampling errors of the percentage edentulous (UK 1978)*

Sex/Age	Base sample size	Percentage edentulous	Sampling error		√deff
			Simple random	Complex	
Male	2176	25.4	0.95	0.93	0.98
Female	2463	33.4	0.95	1.15	1.21
16 – 24	729	0.4	0.24	0.18	0.75
45 – 54	728	31.5	1.72	1.68	0.98
65 and over	821	79.1	1.42	1.50	1.06
United Kingdom	**4639**	**29.7**	**0.67**	**0.86**	**1.28**

* *In 1978 the analysis of the survey data was based on two different areas: the United Kingdom and England and Wales. Initial investigations showed that complex sampling errors for variables and sub-groups based on England and Wales data were about 1.1 times as large as those for the same variables and sub-groups based on UK data. Since it was impracticable to produce both sets of errors for all sub-groups and variables we present the 1978 sampling errors for the United Kingdom sample*

Table A.7 Sampling errors of the percentage edentulous (England and Wales 1968)*

Sex/Age	Base sample size	Percentage edentulous	Sampling error		√deff
			Simple random	Complex	
Male	1382	33.0	1.26	1.43	1.13
Female	1550	40.2	1.24	1.43	1.15
16 – 24	395	1.0	0.50	0.46	0.92
45 – 54	475	40.6	2.25	2.22	0.99
65 and over	503	81.7	1.72	1.68	0.98
England and Wales	**2932**	**36.8**	**0.89**	**1.04**	**1.17**

Table A.8 Sampling errors for mean tooth conditions (UK 1978—people with some natural teeth)

Category	Base sample size	Mean no. of teeth	Sampling error		√deff
			Simple random	Complex	
Missing teeth					
Male	1396	9.1	0.20	0.23	1.15
Female	1387	8.8	0.18	0.18	1.00
16 – 24	646	4.9	0.12	0.12	1.00
45 – 54	419	12.6	0.32	0.38	1.19
Regular attender	1267	7.6	0.15	0.15	1.00
Only with trouble	1114	10.9	0.25	0.28	1.12
United Kingdom	**2783**	**9.0**	**0.13**	**0.14**	**1.08**
Sound teeth					
Male	1396	13.3	0.18	0.23	1.28
Female	1387	12.7	0.17	0.19	1.12
16 – 24	646	17.1	0.23	0.24	1.04
45 – 54	419	10.4	0.26	0.28	1.08
Regular attender	1267	11.9	0.15	0.17	1.13
Only with trouble	1114	13.7	0.22	0.27	1.23
United Kingdom	**2783**	**13.0**	**0.12**	**0.16**	**1.33**
Filled (otherwise sound) teeth					
Male	1396	7.3	0.16	0.17	1.06
Female	1387	8.9	0.16	0.20	1.25
16 – 24	646	8.0	0.21	0.26	1.24
45 – 54	419	7.1	0.27	0.32	1.18
Regular attender	1267	11.4	0.14	0.17	1.21
Only with trouble	1114	4.4	0.15	0.17	1.13
United Kingdom	**2783**	**8.1**	**0.11**	**0.16**	**1.45**
Decayed teeth					
Male	1396	2.2	0.08	0.15	1.88
Female	1387	1.6	0.07	0.13	1.86
16 – 24	646	2.0	0.12	0.22	1.83
45 – 54	419	1.9	0.13	0.16	1.23
Regular attender	1267	1.1	0.05	0.13	2.60
Only with trouble	1114	3.0	0.11	0.18	1.64
United Kingdom	**2783**	**1.9**	**0.05**	**0.13**	**2.60**

Table A.9 Sampling errors for mean tooth conditions (England and Wales 1968—people with some natural teeth)

Category	Base sample size	Mean no. of teeth	Sampling error		√deff
			Simple random	Complex	
Missing teeth					
Male	858	9.8	0.24	0.21	0.88
Female	836	10.3	0.25	0.25	1.00
16–24	371	5.2	0.16	0.16	1.00
45–54	257	14.5	0.44	0.42	0.95
Regular attender	680	7.8	0.21	0.21	1.00
Only with trouble	817	12.4	0.27	0.26	0.96
England and Wales	**1694**	**10.0**	**0.17**	**0.15**	**0.88**
Sound teeth					
Male	858	13.3	0.22	0.24	1.09
Female	836	12.3	0.20	0.23	1.15
16–24	371	16.4	0.27	0.27	1.00
45–54	257	10.3	0.33	0.35	1.06
Regular attender	680	11.8	0.19	0.22	1.16
Only with trouble	817	13.4	0.24	0.26	1.08
England and Wales	**1694**	**12.8**	**0.15**	**0.19**	**1.27**
Filled (otherwise sound) teeth					
Male	858	6.2	0.20	0.26	1.30
Female	836	7.5	0.21	0.24	1.14
16–24	371	8.2	0.30	0.39	1.30
45–54	257	5.0	0.32	0.30	0.94
Regular attender	680	11.1	0.19	0.25	1.32
Only with trouble	817	3.0	0.14	0.17	1.21
England and Wales	**1694**	**6.8**	**0.14**	**0.21**	**1.50**
Decayed teeth					
Male	858	2.6	0.11	0.15	1.36
Female	836	1.8	0.09	0.11	1.22
16–24	371	2.1	0.14	0.23	1.64
45–54	257	2.2	0.18	0.18	1.00
Regular attender	680	1.1	0.06	0.12	2.00
Only with trouble	817	3.2	0.12	0.14	1.17
England and Wales	**1694**	**2.2**	**0.07**	**0.12**	**1.71**

between the two sets of results the error of the difference is simply the square root of the sum of the two variances.

For comparisons made within the 1978 survey data, however, there will be some measure of covariance. It is possible to calculate the complex sampling error of the difference between two statistics using the Kish and Hess method already described. A selection of these errors is shown in Table A.10.

Throughout the text where two figures are stated to be different from each other this difference has been tested and found to be statistically significant at the 5% level (ie the difference/estimate of complex error of difference ⩾ 1.96).

Reference

[1] L Kish & I Hess. On variances of ratios and their differences in multi-stage samples. *Journal of the American Statistical Association* **54 1959.**

Table A.10 Sampling errors of the differences between two statistics (UK 1978)

	Male—female		Regular—only with trouble	
	Difference	Complex error	Difference	Complex error
Percentage edentulous	−8.0	1.22	—	—
Mean number of:				
Missing teeth	0.3	0.30	−3.3	0.31
Sound teeth	0.6	0.26	−1.8	0.32
Filled (otherwise sound) teeth	−1.6	0.21	8.0	0.22
Decayed teeth	0.6	0.09	−1.9	0.12

Annex to sampling report

A note on the Marchant and Blyth Self-weighting random sampling technique

This method of sampling involves a slightly different procedure from that usually employed once the primary sampling units (in this case constituencies) have been selected. A systematic sample of electors is drawn, using the Electoral Register as a frame, and the addresses at which they are registered become the sampling units for the next stage of the procedure.

At this point the method begins to differ from others. Electors are listed at the address in the order in which they appear on the Electoral Register and numbers 1 to 4, spaced at regular intervals, are written down the right hand side of the address form. Number 1 is written next to the name of the elector who led to the selection of the address, and the others are spaced at regular intervals corresponding to the number of electors at the address.

The interviewer calls at the sampled address and interviews the selected individual if present. She then lists systematically anyone else living at that address and not already on the list. If any of these additional people fall on numbered lines they are eligible for interview.

This procedure results in all informants having the same chance of selection. At an address with n electors registered, lines 1 to n contain their names and lines n + 1 onwards bear those of non-electors. If the elector on line 1 happens to have been the person initially selected then non-electors on lines n + 1, 2n + 1 and so on will also be selected. Hence, all have the same chance of selection, and since within each country all electors at all addresses were originally given the same chance of selection, all informants have the same chance and the sample is self-weighting.

Appendix B

The criteria for clinical assessments, the conduct of the dental examination and the training of examiners

R J Anderson, J H Nunn, P S Hull and P M C James

Department of Dental Health, University of Birmingham

United Kingdom Adult Dental Health Survey 1978

Training of dental examiners

Introduction

In an epidemiological exercise on this scale, there is ever present the dilemma of either undertaking large numbers of examinations using a small number of examiners, with the risk of a change in the diagnostic criteria because of the extended time scale; or alternatively, of utilising a large number of examiners over as short an examination period as possible with all the attendant problems of examiner variability. As with the earlier national dental studies it was decided to opt for a large dental team and a relatively short field period. This of course meant that the problem of training and standardising a large team had to be faced. However, it was felt for reasons already stated in the main introduction that varying training patterns and differing levels of experience among the team resulting in variability of diagnosis, could be reduced to a minimum by laying down precisely, the criteria for examination, followed by an intensive period of training. This would ensure, as far as possible, that when differences arose in the results, these would be real and not due to individual examiner variation.

In order to obtain as good a response as possible, the dental examination was carried out in people's homes rather than in a centre to which the participants would have had to travel. Of necessity therefore, the scope of the examination was limited to that amount of information that could be readily collected by a dentist using a small amount of mobile equipment and by the amount of time available to undertake such an examination. It was acknowledged that these constraints would necessarily result in some understatement of the true disease levels but that this sacrifice was necessary in order to guarantee meaningful and valid results.

Setting the criteria

The type and extent of the clinical information to be collected was decided upon by a steering committee consisting of representatives of the Department of Health and Social Security, the Office of Population Censuses and Surveys, a dentist from each of the countries involved in the study and members of the Department of Dental Health, the University of Birmingham. Thereafter, discussions and testing of the resultant criteria were carried out by members of the Department of Dental Health in conjunction with the study organisers from the Office of Population Censuses and Surveys (OPCS). The outcome of these deliberations were the criteria that were to be validated at the pre-pilot study. It was important that the sensitivity and specificity of the criteria were such as to detect variation where it truly existed but not so refined as to result in major intra- or inter-examiner variability. The development of the criteria was done in the full awareness that some degree of accuracy would be sacrificed in order to ensure standardisation in data collection.

A further factor in the criteria design was the necessity to retain, as far as was possible, comparison with the England and Wales Adult Dental Health Survey, undertaken in 1968, so that results from both surveys could, where appropriate, be compared.

Pre-pilot study

This was carried out in the autumn of 1977 in the Birmingham Dental Hospital, using technical staff as subjects and members of the Department of Dental Health as examiners, in order to test the feasability of the proposed criteria and methods of data collection. During this time the examination aids, examination charts and diagnostic criteria were thoroughly tested, after modifications, and in conjunction with the members of OPCS criteria and examination charts were drawn up for further field testing in the pilot.

Pilot study

The revised criteria and procedures were further tested in January 1978 by members of the Department of Dental Health together with four area dental officers from different parts of the country. The seven examiners underwent the standardisation and calibration exercise provisionally planned for the main examiner training courses. Analysis of the calibration exercise revealed there to be no major discrepancies in standardisation. At this stage further minor amendments were made to the criteria and the sequence of the examination procedure.

Following the pilot dental training course the examiners undertook to test the criteria and examination techniques further by conducting examinations on members of the public in six pilot areas of the country, with one examiner acting as a reserve.

Main training programme

The 64 dentists who had been seconded to the study met as two separate groups on consecutive weeks in April 1978. Each examiner had been asked to supply certain of the items necessary for the dental examination (listed in Annex 1) the remaining items were issued to them on their arrival. The three instructors for the training programme were members of the Department of Dental Health, University of Birmingham; the more senior of these had been closely involved in the early development work and, together with the other two, had acted as a trainer on the pilot study as well as participating in the field work that followed it. They were assisted in their role, as trainers, by the four area dental officers who had taken part in the pilot work and who now acted as tutors each with responsibility for a group of dentists. In addition, a team from OPCS was present for the second stage of the training programme to monitor and record the results of the practical training sessions. Other members of OPCS and the Department of Dental Health acted in a supervisory and monitoring role for the duration of the training exercise.

During the introductory period much emphasis was placed on the necessity for the survey examination criteria to take precedence over those used elsewhere in order to ensure complete reproducibility in recording. Furthermore, the concensus arrived at by the examiners, without influence from individual interpretations, during the first training week, was used as a basis for the training of the second group of examiners after slight modifications to the criteria where necessary.

The training programme was divided into three distinct stages; the first part attempted to familiarise the examiners with the criteria, their appropriate codes and the examination chart. This was achieved by short didactic sessions followed by practical work on models and slides of widely varying clinical conditions. After the first day and a half of intensive training, the examiners were taken to an industrial research establishment where members of the staff had agreed to act as subjects for the purposes of examiner training.

In the first half of the first session, the dentists worked in pairs with one acting as a subject and the other as an examiner whilst the tutors took the role of recorders. This period enabled the dentists to familiarise themselves with the application of the criteria to 'real' subjects as opposed to the models and slides, before they were confronted with the volunteer subjects who arrived for the second half of the session at which point the pairs of dentists then took the roles of recorder and examiner. After examining a subject, the two dentists would reverse their roles for the next subject, so that each had experience of examining as well as recording. It was pointed out to them that when taking the part of the recorder they were to carry out the function ascribed without undue recourse to checking the statements of the examiner or conferring on a point of doubt. The emphasis at this stage of the training was on correct procedure and completion of the examination chart without undue pressure on the examiner. On the subsequent two days the same arrangements held for examiner and recorder at these sessions, each examination chart was checked by OPCS staff and compared with the other charts which referred to the same subject as part of the standardisation exercise. This allowed for a constant feed-back of information to the tutors, so that when discrepancies arose they were able to rapidly communicate them to the examiner or examiners involved. On occasion this was done with reference to the subject if he was still present, thereby enabling the original decision to be either confirmed or refuted. It was important at this stage for the tutor to decide if the problem was a serious one and at the same time to elicit whether it was the examiner or the subject that was causing the difficulty, ie was there dispute because of a 'marginal' mouth or a 'marginal' examiner. At the same time, increasing pressure was put on the examiner to speed up; this was necessary in order that sufficient time would be available to carry out the calibration exercise at the end of the training week.

On the Monday, Tuesday and Wednesday evenings the examiners met with their group tutors informally, with their examination charts in order to discuss any problems that may have arisen that day. If necessary, the models and slides were available so that errors in interpretation or misunderstanding could be discussed. At these meetings attention was also drawn to the way in which a dentist's scores may have differed from those of the rest of the group and the possible reasons why. In this way it was hoped that greater standardisation would be achieved.

Calibration and recalibration

On the last day of the training week the examiners met up with one of the OPCS interviewers with whom they would be working for the forthcoming few weeks. One half of the dentists and interviewers then left for the research establishment where they were to undertake the calibration exercise. For a short period they spent some time looking through the forms which the dentist had collected during the week and calling from them so that the interviewer could become familiar with any idiosyncrasies in calling of codes that her particular dentist may have had. There then followed the calibration exercise in which two groups of eight dentists each saw the same eight subjects, as a means of measuring the differences that might still exist between the examiners. Meanwhile the remaining sixteen dentists and their interviewers also worked through their previously accumulated examination charts. These dentists then took part in the second calibration exercise with a different group of subjects from those examined in the morning. The calibration exercise was carried out in the same way as the standardisation exercises of the previous three days except that this time no attempt was made to check the completed forms of the examiners, at this stage, and the interviewers rather than dentists acted as recorders.

This exercise was repeated at the end of the field work in June 1978, when the two groups of dentists returned to re-examine the same subjects that they had seen at the end of their training week. It was therefore possible to detect any shifts in diagnostic standards, away from the set criteria, that might have occurred during the main field work. Two of the dentists who had been to the original calibration exercise did not conduct any survey examinations and so did not return for the recalibration and, unfortunately, eight of the original volunteer subjects were unable to take part in the recalibration. In order to make comparisons between the two sessions, results have been presented only from those who had been present at both.

Results of calibration and recalibration exercises

Once the results from the calibration and recalibration exercises had been collected certain variables were selected in order to investigate the examiner variation. The selected variables can be divided under the three headings — tooth conditions, tooth positions and gum conditions. Within each calibration and recalibration group the total mean value per dentist, for each of the selected variables was calculated together with the standard deviation and the coefficient of variation.

Table B.1 shows these results for the different tooth conditions. The conditions listed are not independent of each other, in that the measurements of 'filled and decayed teeth' and 'decayed, not previously treated, teeth' are the components of the measurement of 'all decayed teeth'. Of the different tooth conditions, the main measures used in the text of this report are the number missing, the total number decayed and the number filled (otherwise sound).

The table shows that the coefficient of variation of the measurement of missing teeth was very low and there was virtually no difference between the number of missing teeth recorded at the calibration session and the recalibration session. The variability of numbers of teeth which were recorded as both filled and decayed was high while the variability of the measurement of filled (otherwise sound) teeth was low.

The results show that detecting the presence of decay gave rise to more variability than for missing or filled teeth and this was so both in the case of decayed and filled teeth and teeth which were decayed and previously untreated. This high variation in measurement occurred at both the calibration and recalibration sessions. It is interesting to note that at the recalibration session, the dentists consistently recorded a lower level of decay than they had previously, there was also generally slightly more variation among the dentists in the recording of teeth which were decayed and previously untreated at the recalibration session than at the calibration session.

Table B.2 shows the variability in the measurements of tooth position, that is whether or not there was a space where a tooth was missing and whether the teeth in a segment were crowded. The coefficients of variation associated with spaces and non-spaces were generally low, though groups two and seven had a slightly higher variability in the measures of both these conditions at both the calibration and recalibration session. In both of these groups there was one dentist who tended to record a high number of spaces and a high number of non-spaces, compared with the other dentists in their groups.

The measurement of crowding showed a higher variability for all the groups of dentists for both calibration and recalibration than the other tooth position measures had shown, though, for most groups, there was more variability in the measurements at the recalibration session than at the calibration session. As has been found in the previous dental surveys the measurement of gum conditions once again proved to be associated with a high level of variability (Table B.3).

Of the four gum conditions measured, gingivitis and calculus showed the lowest coefficients of variation. In most cases, the coefficients were larger for the recalibration results.

There was little periodontitis found among the volunteer subjects and the measurement of it gave rise to high coefficients of variation among nearly all groups of dentists, for both the calibration and recalibration.

For the measurements of debris, the coefficients of variation were similar at the calibration and recalibration (except in the case of group seven where there was a much higher coefficient of variation for the recalibration results than for the calibration results. The estimation of the amount of debris changed and all groups, except group one, recorded a lower level of debris at the recalibration session than at at the calibration session. Although debris is a less permanent condition than the other conditions examined, it seems unlikely that this change in measurement could be totally explained by a change in the mouths examined.

Thus, as was found in similar exercises on the previous dental surveys, the measurement of missing and filled teeth proved to be the most reliable.

Table B.1 Calibration and recalibration results for the measurement of different tooth conditions

	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Number of dentists	8	8	8	8	8	8	8	8
Number of subjects	7	7	7	6	7	7	7	8
Missing teeth								
Calibration								
Mean†	46.9	59.6	45.5	39.9	60.3	62.7	53.3	63.9
Standard deviation	0.3	1.4	0.8	0.3	0.7	0.9	0.5	0.4
Coeff of variation*	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.01
Recalibration								
Mean†	48.1	60.9	45.3	38.5	59.7	64.4	53.4	64.0
Standard deviation	0.3	0.6	0.5	0.5	0.5	0.7	0.5	—
Coeff of variation*	0.01	0.01	0.01	0.01	0.01	0.01	0.01	—
Filled (otherwise sound) teeth								
Calibration								
Mean†	75.7	95.1	62.9	71.5	66.0	78.9	78.4	90.4
Standard deviation	1.4	2.6	4.6	2.1	2.6	2.5	5.6	3.5
Coeff of variation*	0.02	0.03	0.07	0.03	0.04	0.03	0.07	0.04
Recalibration								
Mean†	74.0	94.9	66.4	74.0	66.5	81.4	81.7	95.1
Standard deviation	3.3	1.6	2.1	2.6	1.8	1.1	3.6	4.1
Coeff of variation*	0.05	0.02	0.03	0.04	0.03	0.01	0.04	0.04
Decayed and filled teeth								
Calibration								
Mean†	4.9	2.8	5.9	4.9	3.0	4.1	5.9	6.9
Standard deviation	2.6	2.5	4.0	2.6	2.3	2.5	5.4	3.6
Coeff of variation*	0.53	0.91	0.68	0.54	0.78	0.61	0.92	0.53
Recalibration								
Mean†	4.9	2.0	3.0	3.5	2.0	2.4	3.3	5.9
Standard deviation	1.8	2.6	1.9	3.2	2.3	0.9	2.6	3.8
Coeff of variation*	0.37	1.28	0.62	0.90	1.16	0.39	0.78	0.65
Decayed, not previously treated teeth								
Calibration								
Mean†	7.6	0.1	6.8	5.5	1.2	2.5	5.4	9.3
Standard deviation	3.9	0.3	1.6	2.6	0.5	1.3	1.4	2.1
Coeff of variation*	0.51	2.83	0.23	0.47	0.37	0.52	0.26	0.23
Recalibration								
Mean†	6.4	0.3	6.9	3.9	1.5	1.2	4.7	8.1
Standard deviation	2.6	0.5	2.4	2.4	0.5	1.0	2.6	3.0
Coeff of variation*	0.41	1.85	0.34	0.62	0.36	0.83	0.54	0.37
All decayed teeth								
Calibration								
Mean†	12.5	2.9	12.6	10.4	4.3	6.6	11.3	16.1
Standard deviation	5.9	2.6	5.3	4.6	2.4	3.1	6.1	5.4
Coeff of variation*	0.47	0.90	0.42	0.44	0.56	0.46	0.54	0.33
Recalibration								
Mean†	11.3	2.2	9.9	7.4	3.5	3.6	8.0	14.0
Standard deviation	3.5	2.4	3.8	4.1	2.1	1.2	4.0	6.4
Coeff of variation*	0.31	1.08	0.39	0.56	0.61	0.33	0.50	0.46

† *Mean per dentist*

* *Coefficient of variation* = $\frac{\textit{Standard deviation}}{\textit{Mean}}$

Table B.2 **Calibration and recalibration results for the measurement of tooth position**

	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Number of dentists	8	8	8	8	8	8	7	7
Number of subjects	7	7	7	6	7	7	7	8
Number of 'spaces'								
Calibration								
Mean†	24.1	9.0	16.7	9.6	13.4	19.0	20.4	13.1
Standard deviation	1.0	2.2	1.9	1.8	1.1	0.8	4.1	2.0
Coeff of variation*	0.04	0.24	0.11	0.19	0.08	0.04	0.20	0.15
Recalibration								
Mean†	26.5	10.9	16.5	10.7	13.3	20.5	20.6	14.4
Standard deviation	1.9	2.9	2.6	2.7	1.2	0.9	4.2	1.5
Coeff of variation*	0.07	0.26	0.15	0.25	0.09	0.05	0.20	0.10
Number of 'no-spaces'								
Calibration								
Mean†	22.7	22.9	23.9	24.1	31.9	23.2	26.9	39.0
Standard deviation	1.2	3.8	2.7	1.5	1.0	1.3	4.3	2.1
Coeff of variation*	0.05	0.17	0.11	0.06	0.03	0.06	0.16	0.05
Recalibration								
Mean†	21.6	22.1	23.1	21.7	31.5	22.7	27.0	37.4
Standard deviation	1.8	3.6	2.2	2.8	1.4	1.5	4.7	1.7
Coeff of variation*	0.08	0.16	0.10	0.13	0.04	0.07	0.17	0.05
Number of segments with crowding								
Calibration								
Mean†	10.5	8.9	8.4	9.0	9.9	7.1	6.6	10.3
Standard deviation	2.2	2.7	2.4	2.5	4.6	2.5	1.9	1.7
Coeff of variation*	0.21	0.30	0.29	0.28	0.47	0.35	0.29	0.17
Recalibration								
Mean†	12.2	7.9	8.0	8.1	9.6	7.5	7.0	10.7
Standard deviation	1.9	2.7	2.5	2.5	7.1	3.0	2.9	3.2
Coeff of variation*	0.16	0.34	0.31	0.31	0.74	0.40	0.42	0.30

† *Mean per dentist*

* *Coefficient of variation* = $\frac{\textit{Standard deviation}}{\textit{Mean}}$

Table B.3 **Calibration and recalibration results for the measurement of different gum conditions**

	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Number of dentists	8	8	8	8	8	8	7	7
Number of subjects	7	7	7	6	7	7	7	8
Debris‡								
Calibration								
Mean†	5.3	8.5	21.5	19.5	7.0	11.3	14.0	19.6
Standard deviation	3.9	4.1	8.5	5.3	6.3	5.3	5.7	6.7
Coeff of variation*	0.74	0.48	0.39	0.27	0.9	0.47	0.41	0.34
Recalibration								
Mean†	6.1	5.0	16.0	17.0	4.1	8.7	11.3	17.4
Standard deviation	5.7	3.3	5.6	5.2	4.6	4.3	10.2	8.0
Coeff of variation*	0.93	0.65	0.35	0.31	1.11	0.49	0.91	0.46
Calculus‡								
Calibration								
Mean†	10.4	6.5	12.5	9.4	12.1	9.0	14.9	10.0
Standard deviation	3.6	2.3	3.9	2.9	4.5	3.4	5.9	3.7
Coeff of variation*	0.35	0.36	0.31	0.31	0.37	0.38	0.40	0.37
Recalibration								
Mean†	8.5	6.9	11.9	9.0	8.3	6.1	12.7	8.0
Standard deviation	3.3	3.1	4.5	4.4	2.7	3.8	3.5	2.5
Coeff of variation*	0.38	0.46	0.38	0.49	0.32	0.62	0.27	0.31
Gingivitis‡								
Calibration								
Mean†	18.8	14.0	22.9	27.1	16.4	13.4	22.9	22.1
Standard deviation	10.9	6.4	5.6	4.7	7.6	5.1	4.6	6.1
Coeff of variation*	0.58	0.46	0.24	0.17	0.47	0.38	0.20	0.28
Recalibration								
Mean†	17.9	15.8	22.1	23.6	12.4	10.6	17.0	21.5
Standard deviation	11.8	5.4	5.7	6.2	7.6	6.3	9.3	8.2
Coeff of variation*	0.66	0.35	0.26	0.26	0.61	0.60	0.55	0.38
Perio‡								
Calibration								
Mean†	2.7	2.9	6.6	0.9	1.3	1.9	5.7	2.3
Standard deviation	2.5	2.0	2.6	1.0	2.1	0.6	3.0	2.2
Coeff of variation*	0.93	0.71	0.39	1.13	1.64	0.34	0.53	0.97
Recalibration								
Mean†	3.5	2.9	5.5	2.0	1.5	1.7	3.4	2.9
Standard deviation	2.6	3.0	3.0	2.0	2.1	1.0	2.0	1.8
Coeff of variation*	0.73	1.06	0.54	1.0	1.4	0.59	0.58	0.62

† *Mean per dentist*

* *Coefficient of variation* = $\frac{\textit{Standard deviation}}{\textit{Mean}}$

‡ *Number of segments with. . . . .*

Notes on the oral examination

The criteria for the examination were chosen to ensure that there could be as much comparison as possible with the 1968 study and so that where ever possible the results in this study could be complementary to those obtained in the study of Children's Dental Health in England and Wales 1973. These notes highlight the differences between this and the previous studies.

Training of the examiners

The pattern of training for the dental examiner followed that established for the children's study. It lasted for five working days which was twice the time available in 1968. Each examiner completed about 40 examinations during the training periods for the 1973 and 1978 studies considerably more than in 1968.

Both the training courses in 1973 and 1978 were residential, but in 1978 they were in one place allowing more time to be devoted to the tuition; the major difference between the 1973 and the 1978 training courses was that the system of tutors was introduced. This allowed the time to be utilised effectively and ensure that everyone was thoroughly conversant with the criteria and procedures.

A further difference was in the persons recruited to carry out the examinations. In 1968 dental epidemiology was only undertaken by a few academics, so the majority of the examiners involved had little experience of the techniques and principles involved. Since that time the importance of the discipline has received wide recognition and it now forms a major part of postgraduate courses. In 1978 almost all the examiners involved had experience of such courses and many had undertaken epidemiological projects of their own.

Missing teeth

When examining adults it is very difficult to determine the reason for the loss of teeth which are not present in the mouth. For this reason any tooth which was absent was classified as missing in both the 1968 and 1978 studies. When children are examined the reason for loss is much easier to determine and in the 1973 study the reason for their loss was categorised. Care must therefore be taken when comparing the results of the older children from the 1973 study with the younger adults of this study to ensure that comparisons are not made between teeth missing due to extraction because they were carious in the former and missing due to any reason in the latter.

Dental caries

The criteria for recording the state of the surface of each tooth was the same for all three studies.

Periodontal status

One aspect of dental epidemiological work where the experts fail to agree on suitable criteria is in assessing the status of the gums. The visual assessment of changes of shape or colour is inevitably very subjective. Thus the way in which an individual makes their assessment must be affected by their experience of the disease process and the way in which this part of the training programme is presented.

These problems make everyone dissatisfied with existing indices and therefore there is a constant search for something better. For this reason a different set of criteria were used for the children's study than were used in 1968. The differences were both in the indices themselves and the sites at which they were recorded. As many envisaged the problem was not solved and the difficulties remained. As no clear index had emerged at the start of this study a compromise was chosen in the interests of comparability. The sites of examination were chosen to coincide with those used in the children's study and the indices were modified, hopefully to minimize the subjectivity. In addition, expert periodontal advice was sought when the changes were made, and this expert was responsible for this part of the training course.

In addition to these changes it is generally accepted that over the past ten years there has been an increased awareness amongst the dental professions of the subtle visual changes which take place as periodontal disease becomes established.

Orthodontic assessment

Some of the indices used in the children's study for assessing aspects of occlusion had indicated that there was a large need for orthodontic treatment in the older children. These indices were retained in this study to enable the problem to be investigated into adult life.

Dentures

In this study the examinations of dentures was restricted to partial dentures. The criteria were the same as those used in 1968 with the omission of those criteria applicable to full dentures. Some new criteria were included which gave information about the design of partial dentures.

The conduct of the examination and criteria for the assessments

The Criteria should be studied in conjunction with the examination form. Name, Date of Birth, Sex, Serial Number and dental status will be completed by the interviewer before entering the house.

IF THE PATIENT HAS DENTURES THEY WILL BE ASKED TO WEAR THEM FOR THIS PART OF THE EXAMINATION.

1. EXISTENCE OF THE TEETH

Permanent teeth will be examined in the following order:

Upper left—upper right—lower right—lower left

Every tooth shown on the chart should be given one of the following codes (ie code all 32 teeth):

P — Present
M — Missing
U — Broken down tooth and definite pulp involvement
C — Crown or temporary crown

Notes:

1. Codes P and M. The use of these codes, where the true designation of a tooth may be in doubt, needs some clarification.

The following suggestions may help:

a. Estimate gap sizes, allowing for drifting.
b. Look behind the last standing tooth. Could there have been another tooth there?
c. Look at the tissue in spaces. Is it heaped up, indicating a considerable closure of this space already?
d. Examine the form of the tooth; eg in the upper jaw, third molars are smaller and have a less well-defined cusp pattern.
e. Look at the other quadrants.
f. Ask the patient about loss of teeth.
g. If there is doubt about the identification of the last standing tooth then score the tooth as the second molar, not as the third.
h. If there is a decidious tooth present in the arch then its successor will be scored as M.

2. Code C. This is FULL crown. Three quarter crowns are coded as fillings. In this case use code P.

REPLACEMENT OF MISSING TEETH (Gaps)

Every tooth which has been classified as M in the section above, will be additionally coded into one of the following categories:

D — The tooth has been replaced by a denture or prosthesis which can be removed from the mouth.
B — The tooth has been replaced by a bridge or prosthesis which cannot be removed from the mouth.
N — No space.
S — Space.

Note:

Category N will be used when the remaining space is equal or less than half the width of the missing tooth, and for all missing third molars.

AT THIS POINT IN THE EXAMINATION THE PATIENT WILL BE ASKED TO REMOVE THEIR DENTURES.

2. DENTURE BEARING AREAS (DBA)

When the patient has removed the denture, the denture-bearing areas will be examined. The examiner will assess whether, in his opinion, the denture itself is having a destructive effect on these tissues. Only those conditions related to the wearing of partial dentures will be assessed eg gum stripping, tilting of teeth and caries on teeth adjacent to the denture. Conditions common to full or partial dentures will not be recorded eg traumatic ulcers, denture stomatitis. The findings will be recorded separately for each denture as follows:

affecting = 1
not affecting = 2

Note:

In the situation where a flabby ridge exists beneath a full upper or lower denture opposed by either natural teeth or a partial denture, this is recorded in this section as 'affecting'.

IF IN DOUBT, SCORE LOW

3. SURFACES

The teeth which are present will be re-examined in the order given before. Each will be re-identified (to ensure correct recodes) and each surface coded in the order, mesial, occlusal, distal, lingual and buccal. The surfaces are recorded in the following categories:

O — The surface is sound. None of the criteria under X are applicable, and the surface is not filled.
A — The surface is restored with amalgam
G — The surface is restored with gold
S — The surface is restored with a synthetic filling material
X — The surface has decay at present, a temporary dressing, or a missing restoration.

The surface is regarded as decayed if, in the opinion of the examiner, after visual examination, there is a carious cavity. If doubt exists it will be investigated with the probe supplied and unless the point enters the lesion the surface will be recorded as sound (O).

Notes:

a. Where a surface has been restored with more than one type of filling material only code the material which occupies the largest area.
b. The code for the filling material, (chosen as in a. if necessary) may be multi-coded with X.
c. Chipped or cracked fillings which need replacement are multi-coded with the symbol for the major restorative material together with X.
d. Where a filling from one surface encroaches on another, eg an occlusal filling with buccal or lingual extensions, then the filling is charted as being present on all surfaces on to which it extends.
e. New caries at the junction of a filling and the tooth is charted as code X if the criteria for code X are fulfilled. This is multi-coded as filling and caries.
f. With rotated teeth identify the anatomical surfaces of the tooth when coding, and not those related to its new position.
g. Do not transilluminate the molar and premolar teeth.

IF IN DOUBT, SCORE LOW

4. PERIODONTAL STATUS (Gums)

Method of assessment

In applying the scoring methods for soft deposits, calculus, gingivitis and periodontal involvement the mouth is divided into six segments, three upper and three lower, as follows: anterior, from distal surface of canine to distal surface of canine, and left and right posterior from first premolar to the last tooth in the arch, including the interdental papilla distal to the canine. Each assessment should be made independently; soft deposits should all be noted before calculus is recorded, and all recordings of calculus should be made before those of gingivitis or periodontal involvement. The presence or absence of each of these four conditions will be recorded for the upper left posterior segment, then for the upper anterior segment, and finally for the upper right posterior segment. The opposite sequence will be followed for the lower jaw; ie the lower right segment, lower anterior segment and finally the lower left segment.

The lingual and vestibular aspect of each segment should be inspected for each assessment. All assessments in a particular segment should cease when a condition is detected on any aspect of any tooth in that segment.

Criteria for assessment and coding

A. Soft Deposits

The only instrument to be used is a mouth mirror. If soft deposits are clearly visible to the unaided eye at the gingival margin of one or more teeth within a segment, score '1' for that segment. No attempt should be made to dry the teeth to make soft deposits more readily apparent. If no soft deposit is detected visually within a segment, score '0' for that segment.

B. Calculus (Supragingival)

Score '1' for a segment when calculus is obviously present in contact with the gingival margin of one or more teeth in the segment. Any obvious deposit suspected of being calculus when assessed by direct inspection or with the aid of a mouth mirror, should be tested with a periodontal probe to confirm that it is in fact calcified, and a score of '1' is then recorded. If the deposit is not calcified score '0'.

C. Gingivitis

The state of the gums will be coded according to one of the following criteria:

0 — The gums appear healthy; pale pink and firm with no evidence of inflammation. (No treatment is indicated.)

1 — Moderate gingivitis: The gingival margin is redder and may be slightly oedematous. There is no tendency to bleed. (In this case the gingivitis should respond to plaque control alone.)

2 — Intense gingivitis: The gingivae are markedly red and oedematous. They bleed on digital pressure. (Only if doubt exists in this category should an attempt be made to elicit bleeding.) (Plaque control alone may not be sufficient to resolve the condition.)

Certain gingival conditions exist which, although scoring '0' or '1' on the gingivitis assessment, require more than plaque control alone to resolve the condition. These should be given the appropriate gingival score plus an asterisk and details recorded in Comments (eg Gingival hyperplasia). This should be recorded for each segment involved.

Mucosal trauma, due to incisors biting on the palatal gingiva or labial gingiva should be marked as an asterisk and recorded in Comments.

D. Periodontitis

A segment will be examined for one of or both the following conditions:

1. Gingivitis category 2, as defined above
2. Marked changes in gingival contour

If either or both the above conditions exist, periodontitis is suspected in that segment. In this case proceed as follows:

1. Test for definite tooth mobility. If mobility is found **Score 1**, otherwise proceed to
2. The periodontal probe is used on all tooth surfaces which fulfill the criteria for **PERIODONTITIS** in D to detect pockets greater in depth than 3mm beyond the amelo-cemental junction. If such a pocket is found then **Score 1** for that segment.

Note:

In the case of doubt in any of the above conditions then the lower category should be recorded.

5. CROWDING

Assessment of crowding is to be made on teeth erupted into the oral cavity at that time and no account taken of missing teeth and/or potential crowding. Each segment is to be recorded separately, the middle segments to include incisors and canines, and the right and left segments to include premolars and molars. Record in the following categories:

0 — No crowding, the standing teeth fit into that segment of the dental arch without overlapping or irregularity.

1 — There is a shortage of space or overlap or irregularity in that segment of not more than one premolar width (left and right segments), or one lower lateral incisor width (lower middle segment), or one upper lateral incisor width (upper middle segment).

2 — There is a shortage of space or overlap or irregularity in that segment to a greater extent than in the previous category (1).
IF IN DOUBT, SCORE LOW

OCCLUSAL ASSESSMENT

The assessment of overbite and overjet should be made only when there is sufficient posterior support for the patient to maintain a consistent occlusion and where natural incisor teeth are present. The assessment is to be made therefore with the denture out, the teeth in centric occlusion, and the Frankfort plane horizontal.

6. OVERJET

This is the horizontal distance in mms between the labial surfaces of the upper and lower central incisors. The general incisor relationship should first be assessed ie if the majority are proclined then score as positive, if retroclined, score as negative, and if edge-to-edge as zero. Then a measurement should be made with the gauge supplied on the central incisors with the greatest displacement in the same direction as the general displacement. When no assessment is possible, the recorder will strike through this part of the form. If the assessment falls between marks on the gauge, record the lower mark.

7. OVERBITE

This is the amount by which the upper incisors overlap the lower incisors in the vertical dimension. The overbite should be assessed at the level of the centre of the incisal edge of the upper left central incisor. If this tooth is missing or instanding, assess on the right upper central incisor. If no assessment is possible, the recorder will strike through this part of the form. Assess and record the proportion of the crowns of the lower incisor overlapped by the upper incisor in the following categories:

1 — The upper incisor does not overlap the lower incisor.
2 — The upper incisor overlaps the lower incisor by not more than one third of the clinical crown of the lower incisor.
3 — The upper incisor overlaps the lower incisor by more than one third of the clinical crown of the lower incisor.

IF IN DOUBT, SCORE LOW

8. TRAPPED LOWER LIP

If the lower lip rests passively behind the natural upper incisors record as:

1 — trapped
0 — not trapped

IF IN DOUBT, SCORE LOW

9. DENTURES

The dentures, including those full dentures opposed by natural teeth or a partial denture will then be examined and the following recorded for each:

(i) **Dentures**
Partial — 1
Full — 2

(ii) **Denture Material**
Metal — Those dentures where the major component of the fitting surface is metal not including those whose only metal component is clasps.
Plastic — Dentures whose major component is plastic

(iii) **Denture Type**
Tooth borne — Dentures with bounded saddles and rests.
Tissue borne — Dentures without rests.
Both — Dentures with rests and free-end saddles.

(iv) **Denture State**
Complete
Broken — Where the denture is in need of repair eg fractured, tooth missing or self-mended.

(v) **Denture Hygiene**
If, in the dentist's opinion, there is no debris on the denture ie no plaque, calculus and staining record as:
1 — Satisfactory (Satis)

If there is debris record as:
2 — Not satisfactory (Not)
If the denture is clean apart from staining or recent food debris, score 1.

(vi) **Replacement**
If, in the dentist's opinion, the denture needs to be replaced, score as:
1 — Replacement required
0 — No replacement required

(vii) **Number of Margins**
This is the number of lingual or palatal margins covered by the denture. When half a margin is covered, count as 1. If it is not possible accurately to count the number of collets on the denture, then it should be reinserted and a check made in the mouth, against the teeth.

IF IN DOUBT, SCORE LOW

10. ASTERISKS (DENTISTS' COMMENTS)
The dentist will be asked if he wishes to make any comments. If so, they will be recorded on the back of the form by the dentist. Comments should be restricted to those conditions requiring the intervention of a dentist, which have not already been recorded on the front of the form. (The check list should be used in order to confine the range of comments to those relevant ie expressing a treatment need.)

CHECK LIST
Impacted wisdom teeth and/or pericoronitis
Rotated incisor teeth
Supernumerary teeth
Hypodontia
Development anomalies of enamel/dentine
Clefts of lip and/or palate
Gingival hyperplasia
Abscesses
Diseases of oral mucous membrane
Mucosal trauma

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We are indebted to Proctor and Gamble for the use of their research establishment during the training programme in particular, to Mr D Delahunt, Director, Product Development and Mr H Trainer, Manager, Toilet Goods Product Development for making this possible. Also the many members of their staff who so willingly agreed to act as subjects for the dental examinations, not only for the main training programme but also for the pilot study and the recalibration exercise. Without their co-operation, such a task would have been impossible. We are specially grateful to Mr L Ness, Professional and Regulatory Service Specialist whose untiring and ceaseless activity coupled with impeccable organisation guaranteed us a constant supply of subjects to an examination environment as near ideal as was humanly possible.

We would have been severely hampered in our training of so many examiners if it had not been for the invaluable assistance of the four area dental officers, Mr R Bettles, Mr J Onions, Mr J Palmer and Mr F I H Whitehead, all of whom participated in the pilot study. We extend our thanks to them for their unfailing help throughout.

Our thanks are due also to Ms G Bradnock whose organisational skills ensured the smooth running of each stage of the entire training programme, from the pre-pilot study to the recalibration exercise.

We extend our thanks to Colgate-Palmolive and those of their employees who agreed to undergo the reproducibility exercise that Dr M Downer and MS G Bradnock carried out with the two lighting systems.

Finally, we wish to express our gratitude to all those dentists who so willingly underwent a most rigorous training programme and without whose full co-operation the study would not have been possible. They are listed in Annex 2.

Annex 1 The dental examination kit.

- 4 plane mouth mirrors
- 4 dental explorers, blunted to 0.7mm
- 1 orthodontic measure
- 1 chip syringe
- 4 flexible examination lights
- 2 beakers, with lids
- 1 plastic bag
- 1 sponge
- 2 towels
- 1 portable case

Annex 2 The dentists taking part

Mr A Bewick
Mr R Blankenstein
Mrs W Boyles
Mrs V Burke
Mrs M Chalmers
Mr G Crawford
Mr R L Davies
Mr R L Davies
Mr G J Derbyshire
Mr J Docherty
Mr J E Donald
Dr M C Downer
Mr M M F D'Souza
Mr C K Fenton-Evans
Mr M R Fishwick
Mr C J Frodsham
Mr W H Garland
Mr R M Gray
Mr P Gore
Mr P A Hancock
Mr S A Hancocks
Mr J E Hartley
Mr F C Hodgson
Mr J Horn
Mr M E Jenkins
Mr A M Jenner
Miss P A King
Mr J W Langford
Mr T S Longworth
Mr H Lunn
Mr A McKendrick
Mrs G P McKendrick
Mr K S McPhail
Mr R Maxwell
Miss S M Miller
Mr K J Moss
Miss R C Nesbitt
Mr J Newman
Mr J E F Nixon
Mr M Parkhouse-Evans
Mr W Quirke
Mr J Rhodes
Mr R Rippon
Mrs K H Rothwell
Mr P Rowley
Miss R A Russell
Miss E J Salisch
Miss S Sandham
Mr W Smith
Mr D K Stables
Mr C J D Sykes
Mr J F G Thomas
Mr N Thomas
Mr G Thompson
Mr D Traini
Mr G H Tucker
Miss D Wieczorek
Mr R H Willets
Mr D Williams
Mr M Williams
Mrs S Williams
Mrs P D Wilson
Mr K Woods
Mr N Wylie

Appendix C The documents

1 **Dental examination chart**

2 The questionnaires can be found in full in Volume 1 but have not been reproduced in this volume.

S 1112

DENTAL EXAMINATION CHART

Area No.	Address No.	Person

Inf ....

Date of birth: Day ☐ Mth. ☐ Year ☐

Sex: M 1 F 2

	Upper	Lower
Denture being worn	1	1
Denture not worn .	2	2
No denture	3	3

TOOTH CODES
Existence: P U C M
Gaps : D B N S Draw line
Surfaces : O X A G or S
(X can be multicoded with AGS)

UPPER JAW

	Left 8	7	6	5	4	3	2	Mid 1	1	2	3	4	5	6	7	Right 8
1. EXISTENCE →																
GAPS																
2. D.B.A. →																
3. SURFACES Mesial																
Occlusal						▨	▨	▨	▨	▨	▨					
Distal																
Lingual																
Buccal																

LOWER JAW

	Right 8	7	6	5	4	3	2	Mid 1	1	2	3	4	5	6	7	Left 8
1. EXISTENCE →																
GAPS																
2. D.B.A. →																
3. SURFACES Mesial																
Occlusal						▨	▨	▨	▨	▨	▨					
Distal																
Lingual																
Buccal																

	Upper left	Upper middle	Upper Right	Lower right	Lower middle	Lower left
4. GUMS → Debris	0 1	0 1	0 1	0 1	0 1	0 1
Calculus	0 1	0 1	0 1	0 1	0 1	0 1
Gingivitis	0 1 2	0 1 2	0 1 2	0 1 2	0 1 2	0 1 2
Perio	0 1	0 1	0 1	0 1	0 1	0 1
5. CROWDING →	0 1 2	0 1 2	0 1 2	0 1 2	0 1 2	0 1 2

DENTURES

	Upper Jaw	Lower Jaw
2. D. BEARING AREAS D. affecting Not	1 2	1 2
9(i) DENTURES Partial Full	1 2	1 2
(ii) D. MATERIAL Metal Plastic	1 2	1 2
(iii) D. TYPE Toothborne Tissueborne Both	1 2 3	1 2 3
(iv) D. STATE Complete Broken	1 2	1 2
(v) D. HYGIENE Satis. Not	1 2	1 2
(vi) REPLACEMENT? Yes No	1 0	1 0
(vii) NO. OF MARGINS	-	

	Yes	No
10. ASTERISK PTO	1	2

COMPLETE AFTER EXAMINATION

Att. Patt. 1 2 3 4

	None	Part	Full
Upper	0	2	1
Lower	0	2	1

Dentist's name and No. ☐

Interv. No. ☐

6. OVERJET
+ 1
– 2
O 0
mms. ☐

7. OVERBITE
1
2
3

8. LIP TRAPPED
Yes 1
No 0

SCOTLAND Agreed .....1 Not.....2

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